

LEADERSHIP IS AGAIN EMPHASIZED
IN THE ENGINEERING DESIGN AND
CONSTRUCTION FEATURES OF THESE

NEW HENRY PRODUCTS

THEIR LOW PRICES WILL APPEAL
TO YOU AND THEIR USE WILL
INSURE SUCCESSFUL INSTALLATIONS



**MOST COMPLETE LINE OF
VALVES, STRAINERS AND DRYERS**

Write for Our New Catalogues

**YOUR JOBBER HAS THEM OR
CAN GET THEM FOR YOU**



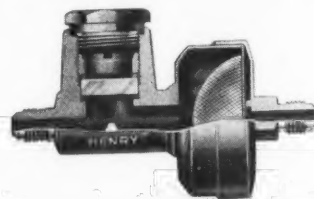
Type 732 Dehydra-Strainer
A Combination Dehydrator
and Strainer with Felt Sack.



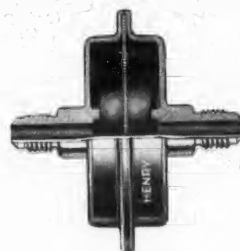
**Type 882 Strainer with Felt
Sack** — A low price, clean-
able strainer with relatively
large screen and sack area.



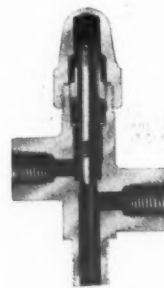
**Type 884 Strainer with Felt
Sack** — Readily cleanable
because of gasketed joint at
inlet end.



**Type 888 Combination
Strainer and Liquid Indi-
cator** — An inexpensive com-
bination strainer and liquid
indicator. Large screen area.



Type 889 Strainer — A low
priced strainer, not clean-
able. Much greater screen
area than in usual small
disc strainers.



**Type 812 Angle Shut-off
Receiver Valve with Lower
Side Outlet for Connecting
Safety Device** such as our
Types 526 and 526-A
Relief Valves — Meets re-
quirements of Chicago Code.
Safety device always pro-
tects receiver because out-
let is below valve seat and
cannot be shut off.

HENRY VALVE CO.

1001-19 N. Spaulding Ave.
CHICAGO · ILLINOIS

Bookcas

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Air Conditioning & Refrigeration News

The Newspaper of the Industry

Trade Mark Registered U. S. Patent Office. Established 1926 as Electric Refrigeration News
Member Audit Bureau of Circulations. Member Associated Business Papers.

Written to Be Read on Arrival

VOL. 23, No. 17, SERIAL NO. 475
ISSUED EVERY WEDNESDAYEntered as second-class
matter Aug. 1, 1927

DETROIT, MICHIGAN, APRIL 27, 1938

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TWENTY CENTS PER COPY

THE COLD CANVASS

By B. T. Umor

Anvil Chorus.

If you happen to have business at the Peerless of America plant out on Chicago's South Side, watch your step. Don't do any looking up at the fleecy clouds—even if you are glad it's spring—or you'll get bumped by one of the trucks that are constantly zooming in and out of the place.

For Peerless is busy. Its new coil-making machine is running 24 hours a day. One department is on a seven-day week. And every Peerless product except household evaporators shows sales gains over 1937, according to President Dick Kritzer.

Recession? Huh. Dick snorts at it. He has a new product, too—a combination kitchen range and furnace, finished in porcelain, for the new FHA low-cost homes. Install a handsome furnace and get your cooking free!

But that isn't what we started to tell you about. The "Anvil Chorus" is what you really ought to know about.

Peerless employees, both in the factory and in the office, now swing their work to the stimulus of recorded music.

Mr. Kritzer purchased a Seebury automatic record-changing phonograph (the kind which normally collects nickels in taverns), hooked it up with a loud speaker system, and turns it loose at regular half-hour periods throughout the day.

Remarkable, he says, what it does for employee morale and efficiency. Even the figure-jugglers who are at work on complicated coil computations in the office get no wrong numbers, add and subtract rhythmically.

First number of the day, invariably, is the "Stars and Stripes Forever." Comes then an admixture of swing and march records, drawing to a triumphant and symbolic close with the "Anvil Chorus."

Bookcase vs. Refrigerator

In his new book, "Georgian Adventure," Douglas Jerrold takes a sideline shot at the electric refrigerator in lamenting the passing of the old family town houses, filled with books.

Says he: "The great pre-Georgian problem was to find room for books. They took up more room than the only modern necessities, the large divan and a 'frigidaire.'"

"English furniture manufacturers have ceased even to make bookcases; you can only buy one second-hand . . . I believe that brains are a necessity, not a luxury."

While he's about it, Mr. Jerrold gets in a jab at another modern development, the radio. "Our normal evening's pleasure," he says, speaking of his own home, "was reading, uninterrupted by any kind of noise." So it appears to be a case of bookcase vs. 'frigidaire,' of books vs. highballs.

All right, Mr. Jerrold, we'll promise not to forget the celebrated "wine of poetry." But don't you forget, either, that a 'frigidaire' plays a pretty important part in fostering a love of literature. It holds food, and keeps it in prime condition—and who's going to deny that a good meal is conducive to a desire for reading good books . . . even if they do happen to come from a lending library?

The U. S. - - Suffering From a Case Of Shock?

Harvey Lindsay, Dry-Zero's scholar-philosopher-inventor president, has little patience with the economists who attempt to account for the present recession by juggling a hatful of obtuse and unrelated factors.

The country, he declares, is suffering from shock.

(Concluded on Page 7, Column 1)

California Sales Of Units Down; Price Level Stays Up

LOS ANGELES—Oddly enough, this paradise of the price chiseler and the bargain hunter hasn't participated in the nation-wide Field Day for Price Cutters.

Year in and year out, southern California probably has more fire sales and play-one-against-the-other shoppers than any other part of the country.

But this season southern California dealers started out in pretty good shape as far as inventories were concerned. Distributors had been canny in 1937; with a few exceptions, they came into January fairly clean.

So no fire sales. Not even on radio. Business hasn't been especially good. Refrigerator volume is off about 32% from last year. But sales have been made at a profit.

California feels the recession more than one might think. True, it is not an industrial state (although Los Angeles is moving up as a manufacturing center—2,400 factories here now, and more coming in all the time).

But citrus prices are abnormally low. And oranges to California are like cotton to the south. What's more, the movie industry has come upon hard times. Theater admissions are off all over the country. Which means that studio budgets have been slashed, and employees let out by the thousands.

Another factor is the large number of California residents who live on income from investments. These families—their number runs high into six figures—are as sensitive as Wall Street to the stock market ticket tape.

As soon as the market weakened
(Concluded on Page 20, Column 1)

Radio Makers Contemplate Production Control Plan

NEW YORK CITY—Compilation of weekly statistics covering production and inventories of radio set manufacturers and distributors as a means of controlling production was decided upon by members of the board of directors of Radio Manufacturers Association at their spring meeting here last week, reports Bond Geddes, RMA general manager.

Under the plan, developed by H. C. Bonfig of RCA-Victor Mfg. Co., manufacturers and distributors will send reports each Monday, covering their conditions as of the previous Saturday-to-Friday period, so that information will be available to the industry within the following week.

Statistics will cover information on production and inventory of units, classified by type of set: console, table models, auto radios, etc. It
(Concluded on Page 11, Column 3)

Most Milwaukee Appliance Dealers Are Cool To Plan Of Salesmen's Union For Price Control

MILWAUKEE—While 82% of Milwaukee county retail appliance dealers agree that their business is being "demoralized" by excessive trade-in allowances, large cash discounts, and other unfair trade practices, only 36% of them gave unqualified approval to the program inaugurated by the Retail Appliance Salesmen's Union, Local No. 1343A, an A. F. of L. affiliate, to stabilize appliance retailing. (See AIR CONDITIONING & REFRIGERATION NEWS, April 6.)

This was revealed by analysis of answers of Milwaukee dealers and distributors to a questionnaire based on the union's program.

Distributors replying were unanimous in their opinion that conditions were unsatisfactory and without exception indicated cooperation with

Dealers In West Pave Way With 'Desert Coolers'

Primitive Device May Educate Public To Air Conditioning

LOS ANGELES—Following up the theory that widespread use of ice-boxes paved the way for volume selling of electric refrigerators, many air-conditioning dealers in this part of the country are now selling the "desert cooler"—a makeshift device for obtaining relief from intense heat, which is generally sold for less than \$100.

Like the overworked Topsy, the desert cooler "just grew." Primitive home-made jobs consisted simply of a barrel, excelsior, a water inlet, and a fan at one end. Currently featured jobs are neatly finished sheet metal cases containing two excelsior pads, a water inlet, and a good fan, designed to fit into a window. Such jobs are usually finished off with an attic fan.

Fans with three-speed control and sufficient power to effect a complete air change in three minutes are employed. Excelsior pads are of a size to provide 1 sq. ft. of area for each 100 cu. ft. of air fan capacity per minute.

Naturally the manufacturers and distributors of "legitimate" air-conditioning equipment have viewed the advent of such jillogy devices with disdain and, in some cases, alarm.

But dealers have reasoned that if people wanted them so badly that they built them for themselves, the dealers might as well cash in on the demand. They can be fabricated
(Concluded on Page 7, Column 2)

York Sales Down From '37, Up From '35

YORK, Pa.—Despite a decline from last year's sales record, York sales this year are running 16% ahead of those of 1935, William S. Shipley, president of York Ice Machinery Corp., reports in a recent letter to the company's stockholders.

Sales for the first half of the 1937-1938 fiscal year, according to the letter, have fallen 27% behind the same period for last year. A severe decline has been prevented, however, by increasing sales of small unitary air-conditioning equipment, Mr. Shipley reported.

Record of orders booked for the half-year periods of the three most recent fiscal years, as reported in the letter, are as follows:

For the six months ending March 31—(1935-36) \$6,283,138; (1936-37) \$10,047,045; (1937-38) \$7,277,062.

Sales Manager



JAMES A. STRACHAN

Strachan To Direct Sales For Kerotest

PITTSBURGH—J. A. Strachan, for the past four years assistant sales manager of Kerotest Mfg. Co., valves and fittings manufacturer, has been appointed sales manager of the brass division of the company, it was announced last week.

In his new post, Mr. Strachan takes over the sales duties formerly handled by J. S. Forbes, former treasurer of the company, who resigned last fortnight to organize his own company.

Mr. Strachan has been associated with Kerotest for the past eight years, and spent three years as representative in charge of the company's office in New York City before returning to Pittsburgh four years ago as assistant sales manager.

The company plans to continue its activities in the refrigeration and air-conditioning field along the same general lines as in the past, Mr. Strachan said. No changes in the company's field force are contemplated at present, he declared.

N. Y. Supreme Court Calls Price Law Failure, But Dealers Plan Fight

WHITE PLAINS, N. Y.—Declaring that retail price maintenance under New York's Feld-Crawford Fair Trade Act has been a failure, Supreme Court Justice Mortimer B. Patterson last week denied a temporary injunction sought by Jack Cooper and Ray Kline, White Plains independent retailers, against Davega-City Radio Corp. and Vim Radio & Sporting Goods Stores Corp., to prevent the chain stores selling radio sets at below-list prices.

Following Justice Patterson's ruling, attorneys for Davega and Vim asked the court for an order compelling the plaintiff dealers to reframe their complaint, listing separate causes of action against the two chain stores individually rather than a general allegation charging violation of the Feld-Crawford Act. Supreme Court Justice Raymond E. Aldrich reserved decision on the motion.

Samuel Rochlin, attorney for the two independent dealers, declared that the motion filed by Vim-Davega attorneys was just another move by the defendants to delay efforts to bring to a trial his clients' request for a permanent injunction against the chain stores. If the decision on this last motion is favorable to the defendants, Mr. Rochlin said, the case cannot be put on the court calendar until after the summer recess.

In the complaints charging that Davega and Vim stores in White Plains had sold radio sets at cut prices, in violation of the Feld-Crawford Act, the plaintiffs charged that the chain stores were selling radio sets at below-list prices.
(Concluded on Page 11, Column 2)

Detroit Dealers' Code To Govern Many Activities

Trade-Ins, Discounts and The Registration Of Salesmen Covered

DETROIT—A "code of ethics" for retail appliance dealers, designed to raise the standard of competition between retailers themselves and to promote their relations with manufacturers, distributors, and the buying public, has been formulated by the revitalized Detroit Appliance Dealers Association.

The new code, which is said to have the backing of the 75 present member-dealers of the Detroit association, provides for registration of salesmen at association headquarters, forbids the giving of discounts to employees except for appliances purchased for their own use, and discourages the practice of giving trade-in allowances by setting a \$3 limit, presumably on deals involving used ice boxes, half of which is to be borne by the salesman.

Splitting of commissions by a salesman, in order to close a sale, is prohibited in the code, as is the sale of appliances by one dealer to another without distributor consent. Retail sales by distributors also are frowned upon. All dealer salesrooms are to be closed on Sundays.

Discount selling is forbidden, the code providing that no price concession be made to a purchaser or group of purchasers unless authorized by the manufacturer; that contractors be given 10% discount only upon presentation of their building permits; and that apartment house operators must buy five or more units to qualify for discount.

Plain marking of price, model, and serial number of all appliances is required by the code. It also is stipulated that all dealer advertising must conform to Better Business Bureau standards.

Full text of the code follows: "The members of the Detroit Appliance Dealers Association, imbued with the desire to promote business and to raise the ethical plane for merchandising and their relationship with the manufacturer, distributor, as well as with the buying public, hereby adopt the following code of ethics: "1. No dealer shall criticize another dealer, nor by any method or language attempt to discourage a customer from trading with another dealer, nor in any way attempt to twist a sale. If a dealer feels ag-
(Concluded on Page 11, Column 1)

March Household Sales 49% Below '37 Mark

DETROIT—World sales of household electric refrigerators by manufacturers to distributors and dealers during March totaled 192,700 units, a drop of about 49% from the record-high total of 380,100 units sold during the same month last year, according to estimates by AIR CONDITIONING & REFRIGERATION NEWS.

This year's March sales also represents a decline of approximately 32% as compared with the 285,900 units estimated as sold in March of 1936. Sales for the month show an increase of 36,200 units over the 156,500 units estimated as sold to distributors and dealers during February of this year.

World sales of household refrigerators by 17 member companies of National Electrical Manufacturers Association totaled 183,059 units during March, compared with sales of 353,557 units by 14 Nema companies reporting for the same month a year ago.

Sales by Nema companies in the United States alone totaled 162,139
(Concluded on Page 16, Column 1)

Kelvinator Direct Sales In N. Y. Under Ralston

DETROIT — L. T. M. Ralston, former eastern divisional manager for Kelvinator division, Nash-Kelvinator Corp., has been appointed head of a new national user sales department in New York City. J. A. Harlan, manager of Kelvinator's commercial division has announced.

Mr. Ralston is succeeded as manager of the eastern division by J. B. Reeves, regional sales manager of the southeastern territory.

The new department which Mr. Ralston will manage has been created as a central source for all engineering, contact, installation, and billing on sales to all chain stores and other business of national scope. Complete facilities for handling engineering and contact have been on trial in the New York branch for the past several months. Mr. Harlan explained, and success of the operation has led to the formation of the new permanent department.

Mr. Ralston has been engaged in engineering and sales work in the heating, ventilating, and air-conditioning fields for more than 25 years. He joined Kelvinator in 1936, at which time he was chief engineer in charge of engineering training for Airtemp, Inc.

During the past four years with Kelvinator, Mr. Reeves has been district manager in the New England territory on both commercial and household products.

\$4,000,000 March Jump Over Feb. Reported By Westinghouse

EAST PITTSBURGH, Pa.—March business showed an increase of nearly \$4,000,000 over February for Westinghouse Electric & Mfg. Co., it was announced at the annual meeting of stockholders held here recently.

Bookings for the first quarter of 1938 were 49% below those of the first quarter of 1937, it was stated, the respective orders totaling \$37,998,569 and \$74,242,584. Incoming orders for March of this year were \$15,126,588, as compared with the February total of \$11,439,127.

In addressing the stockholders, A. W. Robertson, chairman of the board, declared, "I believe that unless things get much worse than we are accustomed to expect in America, we will come through without too much difficulty."

"There are substantial orders on the books. This month we will pay back \$5,000,000 of the money we borrowed last year to help us meet the enormous rush of business, and very soon we expect to pay off the balance."

Five directors, one a new member, were elected at the meeting. The board members succeeding themselves are Jerome J. Hanauer, W. L. Mellon, Frank A. Merrick, and George M. Verity. The new member is C. W. Pomeroy of New York.

Collins Is New Celotex Head Of Merchandising

CHICAGO—Election of Henry W. Collins as vice president of Celotex Corp. in charge of merchandising, with headquarters here, has been announced by Bror W. Dahlberg, president, effective May 1.

Appointment of Harry W. Conway, formerly assistant sales division manager, as manager of the New York sales division to succeed Mr. Collins, and of J. Z. Hollman, formerly assistant general sales manager, as general sales manager, also was announced by Mr. Dahlberg.

Pitcher Appointed Sales Engineer For Hubbell

CHICAGO—L. J. Pitcher has been appointed sales engineer of the Hubbell Corp. of this city, manufacturer of electric valves and back-pressure regulators for refrigerating systems.

For two years prior to joining the Hubbell Corp. Mr. Pitcher had been sales manager of the Electricmatic Corp., manufacturer of water regulating valves and other devices.

Before he joined Electricmatic, Mr. Pitcher had been associated with the Illinois Engineering Co. for 15 years. For a number of years he has been associated with Armour Institute as a part-time instructor in heating and ventilation courses.

G-E, Norge, & Frigidaire Led 16 Manufacturers Of Appliances In 1937 Newspaper Advertising

NEW YORK CITY—Sixteen manufacturers of electric refrigerators, radios, and other home appliances are included in the list of 357 companies which used more than 150,000 lines of advertising in 1937, according to copyrighted figures released by Media Records, Inc., and reprinted from Printers' Ink.

General Electric Co. led all radio and appliance advertisers, with a total of 2,605,652 lines of advertising for 12 products. Norge was second, with 2,469,485 lines on 10 products. Frigidaire, Delco, and Delco-Frigidaire divisions of General Motors Corp. were third, with 2,157,285 lines of advertising on eight products.

Westinghouse was fourth, with 1,491,001 lines on seven products; Kelvinator was fifth, with 863,438 lines on Kelvinator and Leonard products; Fairbanks-Morse was sixth, with 198,882 lines; Crosley seventh, with 187,574 lines; and Stewart-Warner eighth, with 173,068 lines.

In refrigerator advertising alone, Frigidaire led with 1,876,664 lines, in 99 newspapers. General Electric was second, with 979,299 lines in 80 newspapers; Servel Electrolux was third, with 973,176 lines in 67 papers; and Norge was fourth with 703,224 lines in 83 papers. Kelvinator was next, with 613,507 lines in 73 newspapers.

On electric ranges, Westinghouse led with 134,486 lines in 35 newspapers; Hotpoint was second, with 103,456 lines in 19 newspapers; Norge was third, with 28,976 lines in 13 newspapers; Kelvinator was fourth, with 18,023 lines in seven newspapers.

In air-conditioning advertising in newspapers, Chrysler Airtemp led with 74,150 lines in 31 papers; General Electric was second, with 47,429 lines in 26 papers; Frigidaire was third, with 39,515 lines in a total of 26 papers; and Kelvinator was fourth, with 29,570 lines in 22 papers.

Marketing Association Will Meet May 20-21

WASHINGTON, D. C.—The American Marketing Association will hold its 1938 mid-year meeting here on May 20 and 21, announces Dr. Fred E. Clark, president.

Meetings are being prepared for business men in the distributive fields, Mr. Clark said, and will include such subjects as current trends in marketing, the current position of advertising media, and the value of marketing research.

Arrangements are being made for a display of marketing materials being made available by the various government departments. The association also is making arrangements to facilitate the contacting of government experts working in this field, Mr. Clark said.

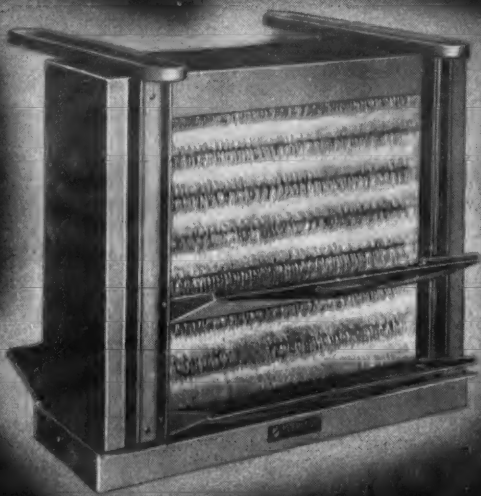
Western To Handle Norge

OLNEY, Ill.—Western Auto Store, owned by Lloyd Hill, has been named dealer in Norge refrigerators, ranges, and home laundry equipment. Thomas Slaughter, formerly of Decatur, has been placed in charge.

16 Appliance Manufacturers' 1937 Advertising

Company and Product	1937		1936	
	Lineage	Cities	Lineage	Cities
Frigidaire Div., General Motors Corp.	1,876,664	99	1,245,975	68
Delco Oil Burner	201,942	28	295,966	30
Delco Conditionair	20,191	15	7,433	6
Delco-Frigidaire	20,048	8	43,438	18
Frigidaire Room Cooler	19,467	19	.....	.....
Delco Products	10,531	7	.....	.....
Delco Automatic Furnace	4,885	7	.....	.....
Frigidaire Water Cooler	3,557	7	.....	.....
Frigidaire Commercial Refrigeration	.....	.....	15,700	37
Chrysler Airtemp	74,150	31	80,315	34
General Electric Radio	1,165,332	99	417,810	62
General Electric Refrigerator	979,299	80	595,763	67
Hotpoint Range	103,456	19	73,838	16
General Electric Washer	75,031	31	52,324	18
General Electric Oil Burners	67,170	14	87,595	27
G-E Electric Ranges	48,286	15	60,786	15
General Electric Air Conditioning	47,429	26	.....	.....
Hotpoint Washer	41,489	19	.....	.....
Hotpoint Refrigerator	38,273	18	32,223	7
Hotpoint Water Heater	29,140	3	.....	.....
General Electric Gas Furnace	9,506	5	8,816	7
General Electric Ironer	1,421	4	5,202	6
General Electric Air Conditioner	.....	.....	41,064	23
General Electric Air Circulator	.....	.....	3,670	8
Kelvinator Div., Nash-Kelvinator Corp.	613,507	73	662,250	68
Leonard Div., Nash-Kelvinator Corp.	116,685	23	111,536	30
Kelvinator Products	62,388	39	.....	.....
Kelvinator Air Conditioning	29,570	22	24,615	14
Kelvinator Stoker	20,336	7	.....	.....
Kelvinator Electric Range	18,023	7	.....	.....
Kelvinator Water Cooler	2,929	7	.....	.....
Norge Products	1,575,189	84	527,734	67
Norge Refrigerator	703,224	83	855,269	85
Norge Gas Range	58,386	13	44,790	17
Norge Oil Burner	52,806	15	.....	.....
Norge Electric Range	28,976	13	.....	.....
Norge Washer	20,402	9	18,028	11
Norge Oil Heater	15,186	4	.....	.....
Norge Stoker	9,846	6	.....	.....
Norge Air Conditioner	3,212	4	.....	.....
Norge Heat Circulator	2,258	6	.....	.....
Norge Electrical Products	.....	.....	217,364	47
Norge Home Heating Equipment	.....	.....	4,072	5
Philco Radio	2,095,655	93	2,071,238	88
Westinghouse Products	618,331	60	83,329	32
Westinghouse Refrigerator	595,728	77	749,797	73
Westinghouse Range	134,486	35	43,776	12
Westinghouse Radio	115,160	33	24,030	9
Westinghouse Miscellaneous Products	15,317	9	.....	.....
Westinghouse Washer	7,668	6	.....	.....
Westinghouse Air Cond.	4,311	7	8,067	11
RCA Victor Radio	1,219,501	95	559,146	83
Servel Electrolux	973,176	67	623,122	43
Zenith Radio	817,926	82	422,730	58
American Radiator Cond. Systems	5,715	3	.....	.....
Sunbeam Air Cond.	1,556	4	.....	.....
Maytag Washer	281,559	71	329,215	78
Maytag Products	12,178	9	.....	.....
Fairbanks-Morse Radio	128,114	37	16,524	12
Fairbanks-Morse Refrigerator	47,971	24	53,118	24
F-M Automatic Stoker	22,797	12	15,476	11
Stewart-Warner Refrigerator	121,089	42	158,625	34
Stewart-Warner Radio	51,979	31	68,990	34
Crosley Refrigerator	130,518	50	178,897	57
Crosley Radio	46,319	39	53,259	38
Crosley Products	10,737	5	.....	.....
Crosley Institutional	.....	.....	21,482	12
Superfex Refrigerator	224	3	5,840	4

The New 1938 Peerless Unit Cooler



Introducing High Dispersion Cooling Surface

AS FEATURED IN

THE 1938 PEERLESS REFRIGERATION PRODUCTS CATALOG

THE HIGH DISPERSION COIL

The new 1938 Peerless Unit Coolers are the first forced draft cooling units to be equipped with the new HIGH DISPERSION Coils, designed and manufactured exclusively by Peerless of America, Inc. By constructing the 1938 Unit Coolers with this new cooling surface Peerless has been able to bring you a unit that is more efficient and more compact, that maintains higher humidity than has been possible heretofore, **AND IS ACTUALLY LOWER IN PRICE THAN PREVIOUS MODELS.**

THE NEW CATALOG

The new 1938 Peerless Refrigeration Products Catalog is the most comprehensive we have ever published. It is completely illustrated and contains a wealth of technical data as well as all essential sales information. Be sure you get your copy — **IT MEANS MORE BUSINESS FOR YOU!**

NEW PRODUCTS

The high spots in this catalog are the entirely **NEW PRODUCTS** that Peerless is introducing for 1938. Don't miss the New line of **UNIT COOLERS!** See the **NEW VELVET ACTION THERMAL EXPANSION VALVE** — **NEW AIR COOLED CONDENSERS** — **NEW WATER SAVERS** (evaporative condensers)! They're all there — in this new catalog — waiting to make your profits grow.

If You Have Not Yet Received Your 1938 Catalog, Write the Nearest Peerless Factory, or Your Local Peerless Jobber.

PEERLESS of AMERICA

INC.

NEW YORK FACTORY
43-20 34th Street
LONG ISLAND CITY

MAIN FACTORY - - GENERAL OFFICES
515 West 35th Street
CHICAGO

PACIFIC COAST FACTORY
3000 South Main Street
LOS ANGELES

BUY PEERLESS FOR PERFORMANCE

PEERLESS JOBBERS IN ALL PRINCIPAL CITIES

JUST OFF THE PRESS



Milwaukee Dealers Are Wary Of Permitting Salesmen's Union To Rule Trade Practices

(Concluded from Page 1, Column 3)

violate terms of their contracts may be brought before that time. Replies of dealers indicated some resentment towards the union's activities, some dealers believing that the matter should be controlled through a dealer organization, while others resent having an organization of employees dictate as to how they should run their business—even though in the name of employer and employee betterment.

Behind the union's program, of course, is the matter of wages and working conditions of employees—principally salesmen. While Phillip F. Koerner, representative of the union, declares the organization will first stabilize appliance merchandising and make it possible for the dealer to make a profit before introducing the matter of wages, several dealers expressed concern that, once the union gains the top hand, its officials will dictate wages and give little or no attention to keeping the small "chiseling" element in line to maintain the business on a high plane.

A \$35 weekly wage guarantee for salesmen is being whispered by some dealers as the goal of union officials.

Of dealers expressing opinions on the matter, only 18% denied that there were practices followed by some dealers that were demoralizing the trade. One dealer in this group demanded that small business be left alone, adding:

'LEAVE US ALONE'

"They have existed for years and can continue so, if they are left alone. This country is a free country and should be left that way."

Another dealer expressed a need for education of dealers in better salesmanship. Most dealers in this minority group, however, said they had signed contracts with the union.

While only 36% gave unqualified approval to the program of the salesmen's organization, another 27% indicated approval in the absence of another solution. Twenty-seven per cent expressed disapproval of the union's program, while the remaining 10% did not record an answer to that question.

A severe indictment of both distributors and manufacturers was issued by one dealer, who said "there was nothing else to do" but to sign a contract with the union.

This dealer charged that the distributor encouraged retailers to engage in practices that demoralized the trade "in the hope of making his quotas with his manufacturer, and as a result we dealers held the bag. We did a lot of volume, but realized little profit, while he got all of his profits with no loss regardless of how much we cut."

While describing the union's plan as probably not being the best, this dealer believes "it is going in the direction of a dealer profit as well as a distributor profit—decidedly more for the dealer, even if he does no more volume than he did in 1937."

MANY SIGN CONTRACTS

Of all replying dealers, 70% said they had already signed or were preparing to sign contracts with the union, 10% declared they would withhold support from the union's plan, 10% will sign if forced to, and 10% will sign when approached by union officials.

Varied were the suggestions for attacking the problem of excessive trade-in allowances and excessive cash discounts, in answer to a query for a "better approach" than that proposed by the organized salesmen.

"Organization of all appliance dealers to bring pressure to bear on jobbers and manufacturers preventing them from selling to chiselers," one suggested. "If they keep selling such firms, boycott their merchandise."

Another dealer suggested manufacturer control over production and distributor control over distribution, maintaining that too many dealers now handle the same line.

"Since the wholesalers have made no real effort to meet our problem, the union has taken advantage of our condition," said another. "The apparent disadvantage as far as the specialty dealer is concerned is the wide gap in prices between standard merchandise and so-called cheaper lines. The manufacturer has a high

list price built up for high trade-in purposes. This should be scaled down 10%, even though the cost would remain the same."

Another dealer suggested "a sincere effort on the part of the distributor to eliminate chiseling by cutting off known chiselers from his lines, and a closely knit dealer organization, supplemented by groups of dealers of each major nationally advertised line working closely with their respective distributors to enforce certain trade practices on the part of dealers, with the threat of having the line taken from them."

Among replying distributors, some flatly admitted they did not know of a better approach to the problem. One, however, suggested a better understanding of and confidence in competitors, and better cooperation on the part of distributors.

U.S. Seeks Way To Aid Small Business With Capital, Roper Says

WASHINGTON, D. C.—Measures to keep chiselers and price cutters in the small business field from getting government loans will greatly affect the entire lending set-up, it is indicated in suggestions now before the President's committee which is considering the problem of providing capital for smaller businesses.

Steps under consideration to assist small business were disclosed in a statement by Daniel C. Roper, Secretary of Commerce, occasioned by the passage of the Glass-Steagall bill.

"The small business man has always operated on short capital," Mr. Roper said. "There has been no organized capital market for small industries. In the supply of permanent capital it is a recognized policy for underwriting bankers to limit their activities to issues of \$1,000,000

and up, as smaller underwritings are not profitable on account of the increased cost per share of distribution.

"Even before the conference of little business men, we had given our attention to this permanent capital problem of small business by inviting a few banking groups to meet and consider the plan of pooling capital in a test corporation to take permanent investments in smaller growing businesses in amounts of from \$50,000 to \$250,000.

"Our suggested plan was that these smaller equities in widely diversified industries could then be used by this corporation as the basis for bond or stock issues for enlarging its capacity.

"We have had two such meetings with bankers' groups on this problem, and we believe that private capital will be made available.

"The vastly more difficult problem of furnishing capital to the great number of smaller businesses is being given studious consideration. I feel that, for the present emergency situation, the recent expansion of RFC activities will be a substantial contribution."

Greusel Re-elected Head Of Milwaukee Dealers

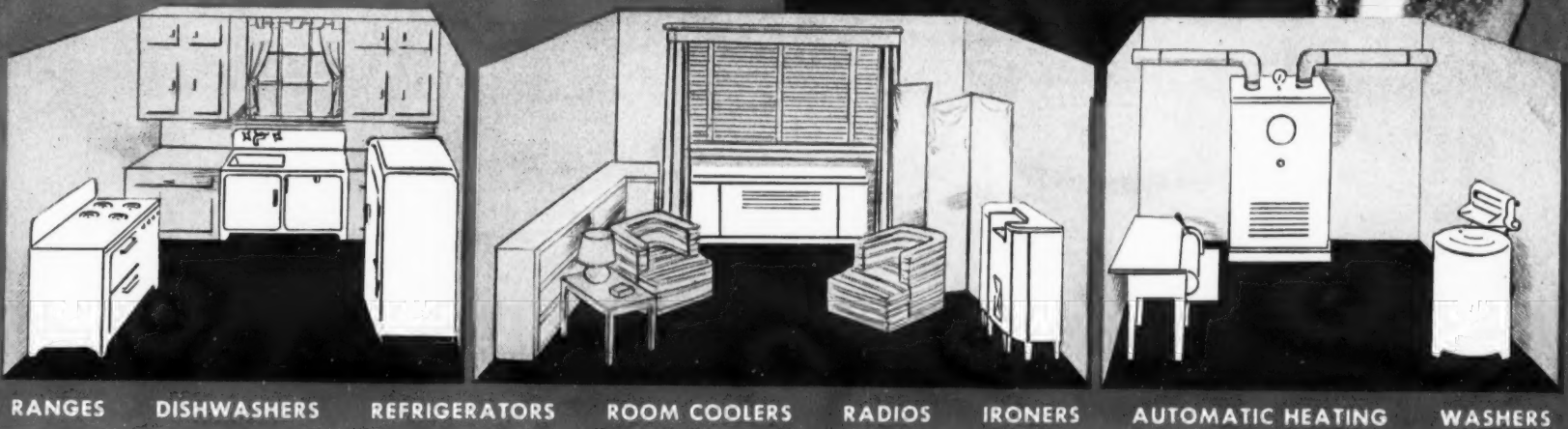
MILWAUKEE—Frank W. Greusel of Greusel Distributing Corp. was re-elected president of the Wisconsin Radio, Refrigeration & Appliance Association for his fifth consecutive term by the board of directors at its recent annual meeting.

Other officers elected to serve for the next year are: Gordon Ische, retail vice president; Gordon Fairfield, wholesale vice president; Arthur Schlieger, treasurer; George Weiland, secretary.

Appliance Dealer Seeks New Hampshire Office

PETERBOROUGH, N. H.—Arthur T. Appleton, electrical appliance dealer here and a former state senator, has announced his candidacy for a place on the Governor's Council in the Republican primary next September.

Purchasers Like the C. I. T. Budget Plan



TO THOUSANDS of American families home modernization means the purchase of a mechanical refrigerator, range, washing machine, room cooler, or similar conveniences. And most of them will be paid for "out of income"—a fact which indicates the selling importance of the nationally-known, friendly C.I.T. sales financing service.

HOW C.I.T. BENEFITS YOU

The C.I.T. Budget Plan has been used by millions of responsible purchasers. Sensible buyers of major household appliances (and automobiles) the country over have relied upon the protection of this Plan with its standard rates and terms to fit individual budget requirements. This public good will benefits you.

From the standpoint of localized service, C.I.T. offers these additional advantages:—

- ample funds for all requirements;
- tactful, on-the-spot credit investigation;
- immediate purchase of acceptable paper by local office near you;
- efficient, friendly collection service.

C.I.T. is national in scope and not subject to local or regional business disturbances. It is the world's largest independent sales financing institution, established in 1908, and serving dealers and purchasers everywhere through 182 local branch offices. When you feature the C.I.T. Budget Plan as your sales financing service, both you and your customers benefit.

C.I.T.

Commercial Investment Trust Incorporated • C.I.T. Corporation, New York, Chicago, San Francisco
Universal Credit Co. • Canadian Appliance Corp. Ltd. • Commercial Factors Corp. • William
Iselin & Co., Inc. • Melinard, Greeff & Co., Inc. • National Surety Corp. • Subsidiary companies of
COMMERCIAL INVESTMENT TRUST CORPORATION • ONE PARK AVE., NEW YORK CITY



Profitable Sales Ideas

Atlanta Dealer Evolves New Angles To 'Following the Iceman' For Prospects

By James McCallum Jr.

ATLANTA—"Follow the ice man—he's your best friend."

Queer advice for an electric refrigerator salesman, you say? Maybe so, but that's the tip that J. G. Oliver, manager of the appliance department of King Hardware Co., local Frigidaire and Stewart-Warner dealer, passes on to any aspiring refrigerator salesman who is looking for ways and means of developing a little "plus" business.

And Mr. Oliver has found from years of personal experience that the idea really works.

"Any salesman," Mr. Oliver points out, "who is willing to 'get up before breakfast' and give this scheme a real tryout is almost certain to notice a welcome increase in his sales volume."

"Here's the way it works. You start out bright and early some morning, say about seven o'clock, and cruise around until you run onto an ice wagon making its daily round. Then follow this wagon, and note carefully the address of each house at which the driver delivers ice."

"Next step is to find out the name of the family living in each of these homes. But this is easy. Best bet, of course, is the city directory, but if this fails, there is always the family next door."

"By following this procedure faithfully, you are sure to have a pretty fair list of prospects developed by the time you report at the store."

"And if you can't sell an electric refrigerator to enough of these prospects to make the trip worthwhile, then you'd better decide that sales work just isn't down your alley."

Some salesmen may slightly point out that this is just a summertime stunt, usable only when electric refrigerator sales are at their peak anyway. For such scoffers, Mr. Oliver has a ready answer:

"Hell!" he explodes, "this trick works even better in the winter. In the first place, you don't have to get up so early, for the icemen themselves don't start out until later."

"And what's more important, you get even better prospects. For anyone who wants refrigeration bad enough to buy ice in the wintertime, certainly can be sold an electric refrigerator."

No idle fancy is this selling formula, for Mr. Oliver, a veteran salesman of electric refrigeration, has himself employed it successfully.

"Ice companies," he smiles, "may be competitors of the electric refrigeration man, but sometimes they can be made to be mighty helpful."

"I used to go even further than following their wagons. For some time I lived just a block away from an ice plant, and I used to make a practice of hanging around there on summer evenings."

"People who had forgotten to put up their ice cards, or who somehow had been missed by the iceman, used to drive up to the plant to pick up their much-needed supply of ice. And many a time I have sold an electric refrigerator to a man while helping him load a 50-lb. cake of ice."

Reader's Shows Houston 'Hot as Hades' Room

HOUSTON, Tex.—Complete line of Crosley household appliances was displayed at the Houston Furniture Show in the new Coliseum here recently by Reader's Wholesale Distributors.

Features of the Reader display were the "Hot As Hades" room, in which a refrigerator froze ice in a temperature of 130° F.; and the 37-tube, \$1,500 Crosley WLW radio.

'Keep a Lot Of Units On the Floor and Have 'Em Working' Says Knoxville Dealer

By James McCallum Jr.

KNOXVILLE, Tenn.—Believe it or not, there is at least one appliance merchandiser extant who not only reports that his organization did a big business last year but who also predicts that his company's appliance volume will increase by at least \$50,000 during 1938.

This man is Ernest L. Fielden, sales manager of Southern Furniture Sales Co., Westinghouse distributor in eastern Tennessee, whose retail division operates under the name of Fowler Bros.

And Mr. Fielden not only predicts big things for his own business this year, but optimistically declares that "1938 ought to be the biggest year in history for any appliance dealer who really wants to work."

What's the secret of the sales success that lies beneath Mr. Fielden's optimism? Well, listen.

First and foremost is his belief that a representative display of merchandise should continually be kept on the floor not only of Fowler Bros. but of every dealer in his territory.

On the main floor of Fowler Bros. store there is not only a single all-electric kitchen display, complete with cabinet work and all the trimmings, but on the store's fourth floor there is a whole section devoted entirely to appliances, and here every model in the Westinghouse line is on display.

KEEP 'EM WORKING

And not only may prospective customers look at the appliances here, but they also may see them in actual operation, for at least one unit of each appliance is kept in operating condition and connected to the store's supply of electric current.

The store's six floor salesmen handle the other merchandise which the store sells, in addition to electrical appliances, but seven outside men are employed to sell appliances alone. Even when handling furniture or floor covering customers, however, the store salesmen keep appliances in mind, and frequently they are able to sell a new refrigerator or range to a woman who only intended to buy some new linoleum for her kitchen floor.

A close tab on local building operations, Mr. Fowler believes, is a great aid in selling individual appliances as well as all-electric kitchens, so he subscribes to Dodge reports and keeps a watchful eye cocked for any other building tips.

WATCH NEW BUILDING

"New construction in this area has been very gratifying recently," he explained, "and more homes should go up this year than at any time since 1929, because of the favorable revision in FHA terms."

In the planning of all-electric kitchens, Mr. Fielden said, nearly every department in the store cooperates so that the prospect may be provided with suggestions as to floor coverings, drapes, furniture, etc., in addition to the actual appliances to be installed. For actual layout of kitchens, the store utilizes Westinghouse's factory planning service.

Fowler Bros. also takes advantage of the factory plan for stimulating prospect tips from satisfied users by offering premiums to users turning in the name of any prospect who is sold within 30 days after the tip is received.

LIBERAL ADVERTISING

"Advertising? Certainly," Mr. Fielden declared. "We have obtained excellent results from a nightly broadcast of United Press news over a local radio station. Only Westinghouse appliances are mentioned on this program. We also make use of newspaper advertising and billboards."

Most of the wholesale activities of Southern Furniture Sales Co. are handled by Mr. Fielden himself.

"When we decided to take on distribution of the Westinghouse line," he declared, "I personally took a trip through the territory which we were to cover and lined up a select group of dealers. We now have a total of 27 dealers in the 17 counties which we cover."

"A qualified sales force is half of any selling program, either whole-

sale or retail. We know this to be true, for we have tried it and witnessed the results."

"In line with this policy, we keep our dealers posted to the last minute on the products which they are selling for us, and send on to them immediately any sales helps which we receive from the factory."

SELLING THE DEALER

"Each year, as each new line is introduced, we hold a banquet-meeting for our dealers and their men. When the 1938 line was introduced last February, 115 persons attended the affair. We arranged to have the Knoxville News-Sentinel, local daily newspaper, run off several extra copies of its edition for the day of the meeting as a special Westinghouse edition, with a front page composed of stories and pictures of the new products, of our organization, and of the work of our dealers."

"We don't stop at one meeting a year, however. Usually we get the men together about four times each year for instruction on the various appliances and how to sell them. This year we're a little ahead of our regular schedule, for we've already had three special meetings."

LAUDS TVA

Questioned regarding the influence which TVA operations and activities have had on appliance merchandising in this vicinity, Mr. Fielden practically beamed. "TVA has helped everyone in the appliance business," he declared. "It has been a wonderful stimulus for appliance sales, but I believe that its greatest benefit, in terms of sales to rural residents, is yet to come."

"In order to reach our share of this constantly expanding rural market, we follow closely the construction of new power lines in this territory by TVA or by Tennessee Public Service Co."

As proof of the efficacy of his sales methods, Mr. Fielden points to the record which his company has compiled.

"Last year," he repeated, "was excellent. In only one month, October, did sales fall below the mark set during the corresponding month of the previous year."

BUSINESS IS GOOD

"Business has been even better this year. Both our factory purchases and our sales are running ahead of last year's records. During the first quarter of the year our retail organization, together with our dealers, sold 170 refrigerators and 90 ranges. Of this total, about 110 refrigerators and 60 ranges were sold by our own store."

"This amounts to about 218% of our quota for that period, and places us at the top of Westinghouse's 'Class C' outlets, and second in all classes."

"I thoroughly expect our refrigerator sales to top last year's mark by at least 200 units, and our range sales to be up at least 150 units. So far we are running well ahead of even this schedule."

Kitchen Bureau Offers 1938 Refrigerator Plan Book

NEW YORK CITY—Refrigerator plan book of the Modern Kitchen Bureau, presenting the Bureau's 1938 refrigerator campaign and describing the test campaigns conducted last fall in Dallas, Tex., and Oklahoma City, Okla., has been printed and is now ready for distribution.

The eight-page booklet explains how the test campaigns may be adapted for use in any other city. Basis of the campaign is a series of six newspaper advertisements, which are available from the Bureau in mat form in several sizes.

These six advertisements present the theme that "In every kitchen with electric lights, there should be electric cold." A seventh advertisement presents the fact that most food stores use electric refrigeration to keep their food products fresh for the consumer, and a special food store placard is provided for use in tie-in with this advertisement.

Sales helps described in the plan book include a demonstration portfolio, a hand-out leaflet, banners and posters, a salesman's guide to selling electric refrigeration, and a program for weekly breakfast meetings centering around a "sweepstakes" contest for salesmen.

Keep Personnel Informed On All Plans, Advises Rosenmiller In Talk

PHILADELPHIA—"The secret of sales promotion is to keep your personnel 'up-to-the-minute' on every new development made by your organization," J. L. Rosenmiller, chairman of the advertising and publicity relations committee of the Air Conditioning Manufacturers Association, and manager of the sales promotion division of York Ice Machinery Corp., told members of the Eastern Industrial Advertisers Organization at a recent meeting here.

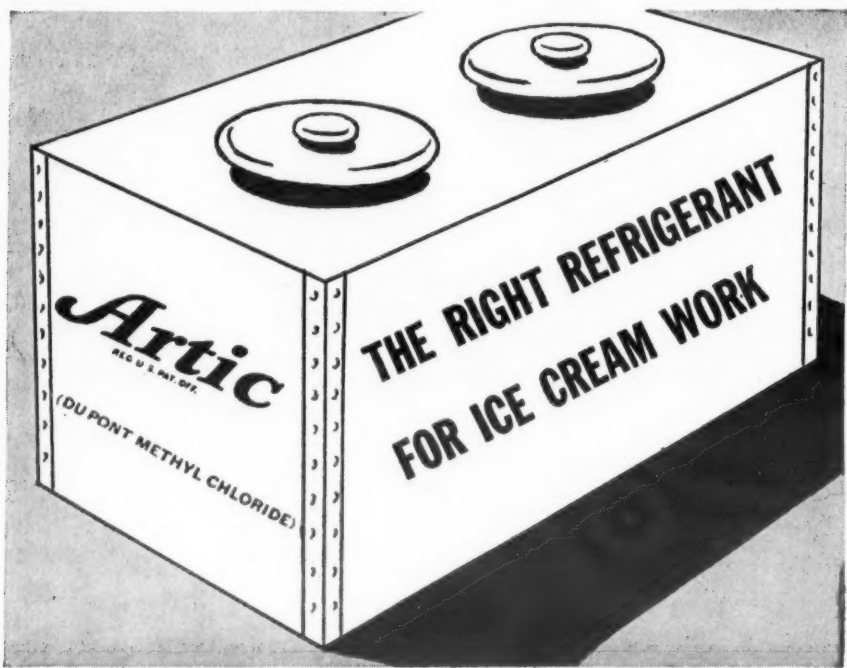
In his talk, Mr. Rosenmiller also stressed the importance of preparing other devices for obtaining publicity and sales aids, such as direct-mail campaigns, equipment exhibits, motion pictures, window displays, signs.

Chicago Appliance Show Attracts 2,000

CHICAGO—More than 2,000 persons attended the "Electrical Appliance Exposition for Home-Makers" conducted here recently by the women's division of the Electric Association of Chicago.

Six complete electric kitchens were featured in the two-day show, and cooking demonstrations were given by representatives of various appliance manufacturers. Home economics editors of several local newspapers spoke at the cooking demonstration held in the association auditorium.

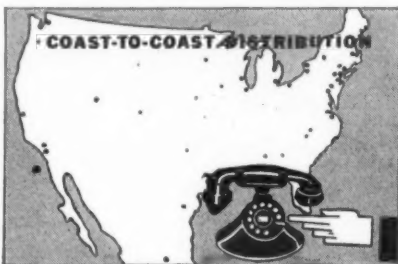
Admission to the exposition was by ticket only, the tickets being obtained from the association by telephone or letter. In this way, the association prepared a good prospect list for distribution to member dealers.



IT'S a quick-cooling refrigerator, permits rapid production of "smooth" ice cream. It gives controlled low temperatures, easily and efficiently, so that ice cream can be held at proper cold before dispensing. That's why it's so widely used in ice cream and dairy cabinets. Recharge these units with the dependable Methyl Chloride—ARTIC—specified and used by leading manufacturers for over 16 years.

Stocked in principal cities in standard containers for prompt delivery.

livery. Send for "ARTIC Service News"—valuable servicing information, list of distribution points, etc.

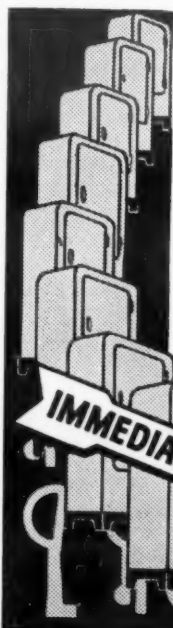


E. I. DU PONT DE NEMOURS & COMPANY, INC.
The R. & H. Chemicals Dept., Wilmington, Del.

District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

ARTIC—The preferred Methyl Chloride for service work

You Can Service More Boxes with MILLER'S 1938 LINE OF REPLACEMENT DOOR GASKETS



★ You won't have to pass up profitable replacement business with this great new 1938 line of Miller rubber door gaskets. It offers a total of 28 different gasket types with which you can service 80% of all refrigerators, regardless of make. Every gasket in the line meets the same exacting standards for size and quality as those supplied by Miller to the refrigerator manufacturer for original equipment.

Miller door gaskets are easy to stock and identify because each 10-ft. length is packed in an individual box of sturdy, compact design which is plainly marked with both type number and dimensions. For price list and dimensional drawings covering the complete 28 gasket types, see your local jobber or write

THE MILLER RUBBER COMPANY, INC. • Akron, Ohio

IMMEDIATE DELIVERY

Miller

"Engineers in Rubber"

Commercial Refrigeration

Blue-Eyed Salesmen Are Best Producers Says Super-Cold; Others Not Hired

LOS ANGELES—"Brown Eyes, Why Are You Blue?" may sound like a humorous song title to most folks, but it's no joking matter with salesmen who apply for jobs with the Super-Cold Corp., which manufactures and sells complete commercial refrigeration equipment.

Here is a corporation which has enjoyed a steady annual increase in sales for well over a decade. This year apparently is to be no exception, for the first quarter showed a 6% increase in sales over the first quarter of 1937.

This success is founded on two iron-clad merchandising principles, and the first one may knock you right out of your swivel chair. They are:

1. They hire only blue-eyed salesmen.

2. They accept only leads gained through cold canvass.

That first rule is no kidding. Salesmen who apply for a job at any of the Super-Cold sales branches either have blue eyes, or they don't go through the 30-day training period.

BLUE-EYED MEN ONLY

"We have found through experience," explains blue-eyed George Lindahl, "that all our good producers are blue-eyed. So now we save time and money by refusing to train brown-eyed men. Hazel eyes are all right; the color of hair doesn't matter; but brown eyes—nix."

"Blue-eyed men are your pioneers. They are the best flyers. And they are the best specialty salesmen. Brown-eyed men are for production, and for merchandising commodities."

Having blue eyes, however, isn't enough. Prospective Super-Cold salesmen should have had specialty selling experience—on cash registers, scales, vacuum cleaners, and other good specialties. But not on refrigeration.

"If they've sold Kelvinator or Frigidaire or Icykist," says Mr. Lindahl, "they're too hard to retrain."

Branches do approximately half the Super-Cold business. Each has a manager and a sales manager. Sales crews range up to the New York branch's 52.

MANAGERS FACTORY-TRAINED

Every sales manager is factory-trained at Los Angeles. Not until he has successfully schooled three sales crews for Los Angeles is he considered ready for work further afield.

Export business, which amounted to more than \$300,000 last year, is handled largely through a London office. Mr. Lindahl's 23-year-old son has been traveling all over the world training service men.

President Kessler who, like Mr. Lindahl, has been in the refrigeration business in California for nigh onto 20 years, claims that his concern has contributed a great deal to the development of dry-expansion commercial refrigeration.

Starting out as the California Butcher's Supply Co., the Kessler-Lindahl company first made commercial cabinets for Frigidaire and Kelvinator. Then they went into commercial applications, under the name of Commercial Refrigerator Co.

Developing the Super-Cold "unitized" line of display cases (with compressor and coils built in), the concern adopted the name of Super-Cold Corp.

HAS FOUR FACTORIES

Super-Cold now makes compressors, coils, and cases in four Los Angeles factories. The compressor plant is a new one, located on a large plot of ground outside the city limits.

Among the recent Super-Cold developments in cabinet design are (1) remounting porcelain panels in rubber, to prevent cracking and chipping; and (2) a new wax for sealing glass in display cases. This wax expands and contracts at precisely the same rate as glass. Thus the manufacturer is enabled to dehydrate the air between the panes of glass, seal it with the wax, and feel assured that there will be no fogging.

New product is the Super-Cold dry bottle cooler. This was developed because of the agitation in some states against wet-bath bottle coolers, say Super-Cold officials.

In Texas, for example, health department officials take sledge hammers to wet-bath bottle coolers which are found to contain milk.

California imposes a \$25 fine against retailers who sell label-less beer. And since the labels sometimes peel off in a wet bath, the dry cooler is being demanded.

DRY BOTTLE COOLER

The Super-Cold dry-bottle cooler utilizes coils and a fan which shoots dry cold air around the bottles at the bottom of the case, after which the cold air filters up to the top with dissipated pressure.

Both Mr. Kessler and Mr. Lindahl are sold on Los Angeles as a manufacturing city. Its growing importance as a port, its ready access to oriental markets and to South America, the fact that it is only two weeks from New York by boat, and its abundance of cheap labor are all advantages, they think. Besides, there's the climate.

Sampson Electric Co. Opens New Showroom In Chicago

CHICAGO—Sampson Electric Co., Norgie distributor here, has opened a new display room at the southeast corner of Michigan Ave. and East 32nd St. Decorative and lighting effects have been achieved through glass brick and other materials.

The quarters will be used for display of the distributor's commercial refrigeration and air-conditioning line, including: boilers, furnaces, stokers, gas burners, oil burners, water heaters, commercial refrigeration equipment, and air conditioning.

Midwest Introduces Four Knock-Down Cabinets For Limited Space

GALESBURG, Ill.—Four commercial refrigerator cabinets of knocked-down construction, designed for use in installations where limited space will not permit taking regular-size cabinet through door openings, have been introduced by Midwest Mfg. Co. of this city. Two of the cabinets are equipped with coils, and two with forced-draft cooling systems.

Special knock-down construction used in the models permits them to be taken apart in 30 minutes, it is claimed. All models have frames of kiln-dried spruce, and Balsam Wool insulation 3½ inches thick in doors and 3 inches thick in ends, back, top, and bottom.

All models also may be had with full-length meat doors, glass service doors, and Dulux or porcelain exterior finish.

Model AP45-KD is regularly furnished as a four-door model, and has a net storage capacity of 44.75 cu. ft. and shelf area of 51 sq. ft. Adjustable shelf supports permit the placing of the 10 shelves in any desired position. Coil compartment on this model is accessible through a top coil door. List price of the unit, with coil, is \$642; without coil, \$588.

Model AP68-KD is a six-door model, and has a net storage capacity of 68.85 cu. ft. and a shelf area of 81 sq. ft. Fifteen adjustable shelves are included in this model, coil compartment of which can be reached through an outside top coil door. List price of the unit, with coil, is \$878; without coil, \$805.

Model AP56-KD, equipped with a forced-draft cooling system, has a net storage capacity of 56 cu. ft. and a shelf area of 59.5 sq. ft. It is a four-door model, with 12 adjustable shelves. List price of the model with blower, is \$650.80; without blower, \$576.

Model AP84-KD, which also has a forced convection coil installed in the back wall, has a net storage capacity of 84.7 cu. ft. and a shelf area of 94.5 sq. ft. It has six doors and 18 shelves, which are adjustable to any positions desired. With blower, the unit is priced at \$881.40; without, at \$789.

Frigidaire Markets Line Of 4 Storage Chests For Frosted Foods; 3 Are Self-Contained



One of Frigidaire's new line of refrigerated storage chests for retailers of frosted foods, which are now in production at Moraine City, Ohio.

DAYTON, Ohio—Frigidaire division, General Motors Sales Corp., will market through its commercial refrigeration dealers a line of four refrigerated storage chests for grocers, butchers, and other retailers of frosted foods, Roy E. Smithson, commercial sales manager, announced last week.

Sales activity will be started immediately, the announcement said, since the chests already are in production at Frigidaire's Moraine City, Ohio, plant and retail outlets are being stocked.

Depending upon the product and shape of package, the frosted food chests have the following capacities: model P-30, 10.04 cu. ft. or approximately 300 lbs.; model P-40, 13.74 cu. ft. or approximately 400 lbs.; models P-60 and R-60D, 20.61 cu. ft. or approximately 600 lbs.

As accessory equipment, each of the chests may have a double-face advertising display sign for listing of frozen food products and prices. Each side of the sign is lighted by overhead hooded lamps. Full color, glass covered display posters add to the display.

The first three of the chests are portable, with refrigerating mechanism in the cabinets themselves. The fourth model is for installation where the refrigerating mechanism may be installed remotely.

The sides, ends, and bottom are permanently welded into a sturdy, rigid one-piece cabinet assembly and hot asphalt is applied to all welded joints on the inside.

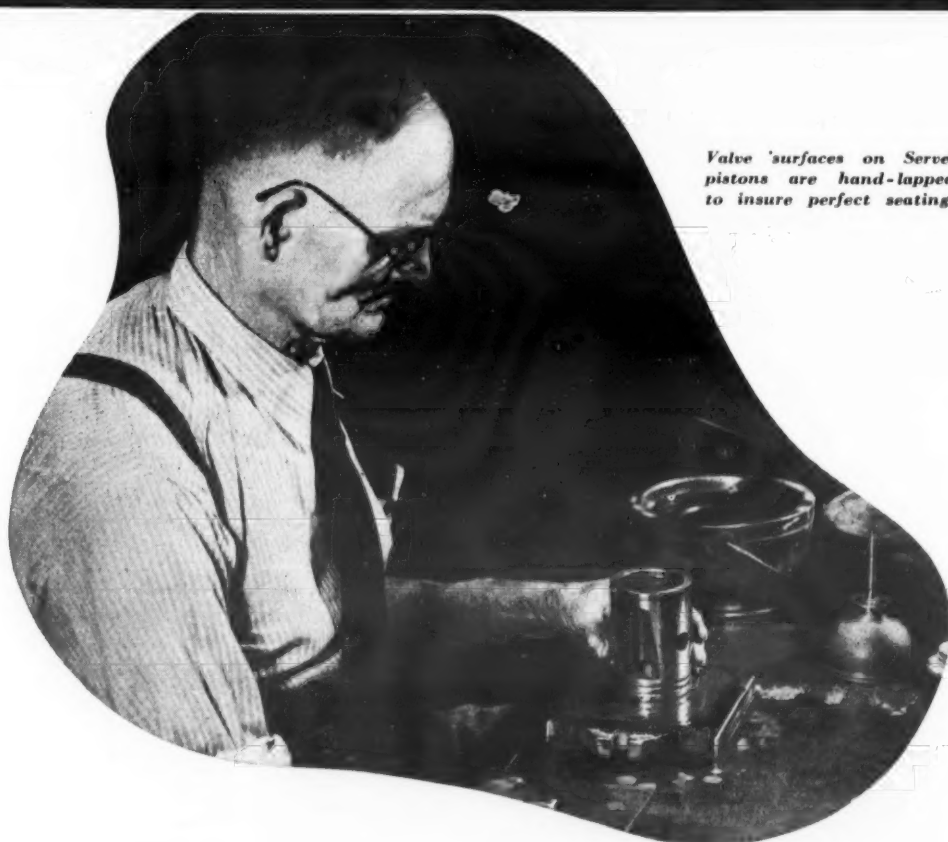
Flip-flop type lids are used in all chests, to provide ready accessibility to the storage compartments. Rubber bumpers on the handles prevent marring of the lids.

Each chest is insulated with vegetable corkboard insulation, 4 inches thick on all sides and the bottom. The insulation is sealed with hot asphalt against the infiltration of moisture.

The exterior is Bonderized to resist rusting, and finished in white Duco.

All models are equipped with stainless metal tops.

Direct expansion cooling coils furnish refrigeration directly to the storage compartment.



Valve surfaces on Servel pistons are hand-lapped to insure perfect seating.

PISTON POWER!

A refrigerating machine is no better than its pistons! More than any other single element, pistons "make or break" the machine's operating characteristics.

Servel pistons perform perfectly, because they are accurately machined to exact dimensions, matching the cylinders in which they operate.

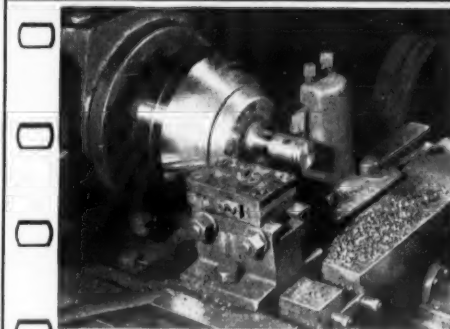
Ample alloy piston rings on all sizes, coupled with positive lubrication, insure full capacity and high efficiency—not only when the machine is new—but after many years of hard use.

Servel machine units can help you solve your most troublesome refrigeration or air conditioning problems. Write today for full details.

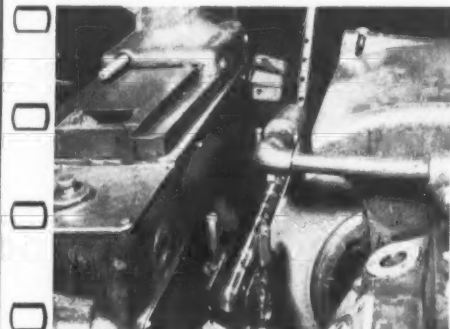
SERVEL, Inc.

ELECTRIC REFRIGERATION AND AIR CONDITIONING DIVISION
EVANSVILLE, INDIANA

MATERIALS...MACHINES...MANPOWER



ROUGHING—Servel piston castings are first turned to approximate size on automatic machines.



GRINDING—Servel pistons are finished to close limits on precision centerless grinders.



INSPECTION—A Servel piston must pass more than a score of exacting dimension tests.

Copeland's New Officers Have Their Hands Full In Sidney



Taking over the business of an old refrigeration manufacturing company, reorganizing its production facilities in a new city (Sidney, Ohio), and injecting new life into both has kept Copeland's new battery of executives stepped up to their highest energy output. Above (1 and 2) are President Harry E. Thompson, and (3) Vice President Frank Gleason.

TVA Has Benefited Dealers Mainly By Promotion Of 'Electrical Living'

By James McCallum Jr.

KNOXVILLE, Tenn.—When, as, and if the city of Knoxville ever is supplied with TVA power, what will be the ultimate effect on local appliance merchandising?

No one, as one local newspaperman pointed out, can possibly predict the answer to this question with any degree of certainty. Many appliance dealers here, however, seemed willing enough to hazard a guess as to the outcome. But as might be expected of opinions regarding such a controversial topic, no two jibed completely.

One specialty appliance dealer expressed the opinion that introduction of TVA power to Knoxville would result in a reduction of at least 20% in existing power rates, and a subsequent boom in appliance sales.

VIEWPOINTS VARY WIDELY

Diametrically opposed to this belief, the appliance sales manager of one of the town's largest department stores firmly declared that local use of TVA current would result in no noticeable change either in current rates or in appliance sales.

Still another appliance merchant suggested that although TVA power might be cheaper when first introduced, political finagling and pressure from other sources soon would force rates back up again.

An official of Tennessee Public Service Co., utility now supplying power to Knoxville and surrounding area, blandly refused to make any comments whatever about TVA. "I

am afraid that any statement I might make would be of a prejudiced nature," he explained.

One thing that practically everyone in local appliance circles agreed upon, however, was the fact that the activities of TVA during the past four years have given local appliance sales a terrific boost. Even those violently opposed to the Authority on a matter of principle admit that it has proven a most welcome stimulus to the appliance business.

This stimulus has been brought about through a combination of many factors directly attributable to the formation and operation of TVA.

Formation of TVA necessitated organization of a huge corps of workers, both skilled and unskilled, to direct and carry out the Authority's multitudinous activities and projects.

GOVERNMENT SPENDING

Centralization of this staff in Knoxville, and establishment here of the Authority's headquarters, naturally resulted in increased circulation of money and a consequent increase in all phases of local merchandising. Electrical appliances, along with other products, came in for their full share of this new business.

Not only did the new residents themselves purchase many appliances, but the money which they spent in other local channels boosted the profits of merchants and business men of all types, and enabled them, in turn, to add to the number of appliances in their homes.

Then, shortly after TVA got underway, the local utility effected a sizeable reduction in its electric current rates. Many people knowingly claimed that this reduction was directly due to the influence of the low rates which distribution of TVA power had made possible in other parts of the Tennessee valley. Others disagreed, but regardless of the cause, the reduced rates resulted in a still faster and more steady flow of appliance sales.

When people who had previously been using all the electricity which they could afford saw their monthly electric bill cut practically in half, many of them promptly decided to expend this saving on electrical conveniences which would enable them to take further advantage of the lower current rates.

PROMOTION POURED ON

But probably the greatest stimulus of all to the appliance trade, and the one which has kept cash registers ringing most steadily in appliance outlets, has been provided by the intense and widespread promotional campaign which the Authority has used to sell residents of this area on the advantages and benefits of "electrical living."

Ever since TVA's inception, it has literally flooded the entire Tennessee valley region with every conceivable type of promotional activity. During the past four years, every time a resident of this area picked up a newspaper, turned on a radio, or walked down the street, he read, heard, or saw something more about the many ways in which electricity could be employed to make his life more enjoyable and to lighten the burden of himself and his family.

The inevitable result of this continual hammering, day after day and week after week, was to instill in the minds of the people the idea that if one didn't "live electrically," one just didn't live.

PUBLIC AWAKENS

"There's no doubt about it," one dealer emphatically declared. "All this TVA promotion has made the people in this section practically eat, drink, and sleep electricity. They're

just electrically minded—there's no other way to describe it."

Realizing all this, what appliance dealer, as a business man, wouldn't give three lusty cheers for TVA, even though personally he might denounce the entire project, condemn government participation in business, and look upon the whole TVA promotion program as a "lot of dirty government propaganda?"

How the local situation, in regard to prospective inroads of TVA power, will eventually work out is still anybody's guess. But here is how the situation developed and how it stacks up at present:

Back in 1935, when TVA was really settling into its stride, the city of Knoxville voted to purchase power wholesale from TVA and to establish its own distribution system. Whether the city was to construct its own power plant or to purchase the facilities of Tennessee Public Service Co., the local utility, never was definitely determined, for the decision to affiliate with TVA soon became obscured in political confusion.

Eventually the city commenced construction of the first unit of its distribution system. This plant, located on the north side of the city, is scheduled for completion this summer. Now, however, the city fathers are engaged in an extended three-way pow-wow with TVA and with officials of National Power & Light Co., parent company of Tennessee Public Service Co.

Herrlich Heads Kelvinator Operations In Capital

BALTIMORE—Charles Herrlich, sales manager for the Baltimore division of the Baltimore-Washington, D. C., factory branch of Kelvinator, has been named manager of the Washington division of the distributorship.

Robert Nicholson, a departmental manager of the Baltimore branch since its opening, has been named sales manager of the household refrigeration and appliance department, covering both wholesale and retail activities.

RFC Backs New Plan To Help Farmers Buy Electrical Appliances

WASHINGTON, D. C.—A program designed to assist dealers in electrical appliances and utilities by purchasing installment contracts covering the wiring and re-wiring of homes and farms, was announced last week by Jesse Jones, chairman of the Reconstruction Finance Corp.

Under the program, the Electric Home and Farm Authority will purchase, under certain conditions, installment paper now in the hands of utilities covering the sale of electrical appliances where the purchase will maintain or increase employment through new construction operations.

The EH & FA has been assured of cooperation in the wiring financing program by the National Adequate Wiring Bureau, which represents the National Electric Manufacturers Association, National Electric Contractors Association, National Electric Wholesalers Association, International Association of Electric Leagues, and Edison Electric Institute.

Fairbanks-Morse Pays Bonus To Employees

CHICAGO—Bonus checks totaling \$106,114.54 have been distributed to employees of Fairbanks, Morse & Co. as part of a profit-sharing program inaugurated last year, company executives announced recently.

Eligible to participate in the profit-sharing plan were 4,472 factory workers and others paid on a salary basis. Salesmen and managers whose earnings are based on sales were ineligible for the bonus.

Amount paid was based on earnings of \$2,148,432 during the fiscal year of 1937. Total sales for the year were valued at \$30,596,350, compared with \$26,827,891 in 1936. Net profit, however, was off 4.64% in 1937 as compared with 1936.

PREST-O-LITE TORCHES

convenient to use in any position...



Prest-O-Lite Gas for Prest-O-Lite Torches can be obtained at any of the thousands of Prest-O-Lite Gas Exchange Service Stations.

WITH the slender, gooseneck-type tip and high-temperature air-acetylene flame of Prest-O-Lite Torches, you can apply heat exactly where you want it. These modern torches, for soldering, heating and light brazing, provide an efficient and exactly controlled flame in whatever position they are held. They will save both time and money.

Telephone your jobber, or write to us for a demonstration of Prest-O-Lite Torches.

A-6107 Prest-O-Lite Torch (illustrated)
Price \$2.50

The word "Prest-O-Lite" used herein is a registered trade-mark.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation

New York and Principal Cities
In Canada: Dominion Oxygen Co., Limited, Toronto

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

No. 4 of a Series of Curtis Advanced Engineering Features.

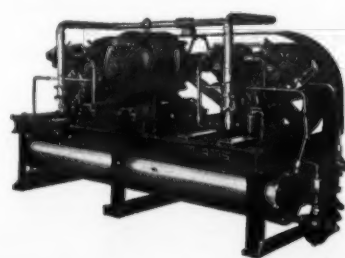
CURTIS DROP FORGED CRANKSHAFTS AND CONNECTING RODS—ANOTHER CURTIS FEATURE THAT REDUCES OPERATING COSTS

One of the major contributions to the high efficiency of the Curtis compressors is the Curtis practice of using only drop forged crankshafts and connecting rods. These cut down friction, prevent motor burn-out in starting after long shutdowns, provide adjustment for wear and make for quiet, vibrationless operation.

This is but another example of the quality and precision that is built into the design and manufacture of every Curtis unit.

There is a Curtis model for every air conditioning and refrigeration need—from 1/6 to 30 H. P., air and water cooled. In thousands of installations throughout the world, Curtis quality is giving economical trouble-free performance under a variety of operating conditions.

Write to Curtis for full details.



Drop forged alloy steel automotive "H" section connecting rod

Drop forged heat treated precision ground crankshaft



CURTIS

"Builders of Condensing Units Since 1922"

CURTIS REFRIGERATING MACHINE CO.
Division of Curtis Manufacturing Co.
1912 KIENLEN AVENUE ST. LOUIS, MO.

—for every air conditioning and refrigeration requirement.

THE COLD CANVASS

By B. T. Umore

(Concluded from Page 1, Column 1)

"Last year," Mr. Lindsay will tell you, "American citizens sat aghast while state and municipal authorities permitted sit-down strikers to seize property illegally and hold it for ransom."

"But being aghast was just the first part of it. Next they were stunned to learn that the federal government apparently approved of extortion by force, and that the Wagner Act made it mandatory."

"The latest Wagner Act—not yet a law—makes class distinction the law of the land, and discriminates between classes in legal responsibility and possibility."

Next, taxes, overtaxation, double taxation, hidden taxation, unfair taxation. . . . A recent report of the Phillips Petroleum Co. shows that the amount paid for taxes in 1937 by this well-managed concern would more than have doubled the salaries and wages of all its employees and doubled its dividend payments as well.

"America was profoundly shocked last year," reiterates Mr. Lindsay, "by government-approved or government-directed extortion. Hence values crashed last fall and business is slow today."

'Sandy' Pratt Gets Some Good Notices

In the NEWS a few weeks ago, there was an editorial on "Publicity—And How to Get It." If you can't get the publicity you want after following the instructions given by the editor of this sheet, then old B.T.U. suggests that you take a few lessons from "Sandy" Pratt, San Francisco jobber, operating under the name of California Refrigerator Co.

Whether he gets publicity because he does things or does things to get publicity, you'll have to admit that he does things in a big way and deserves what he gets. For example, Mr. Pratt is one of the original promoters of the Sunrise Easter Service which is now one of the great traditional ceremonies of the Pacific Coast.

A newspaper clipping just received announces that Mr. Pratt will be the principal speaker at the 50th anniversary celebration of Tulare, Calif., where he was a member of the first class to graduate from the high school of that city. Special mention is made that Court Smith, warden of the San Quentin prison, will be one of the visiting pioneers attending the celebration. "Sandy" says that San Quentin is the largest prison in the world, although he admits that he never attended it.

Hurrah for San Quentin! Hurrah for Tulare! Hurrah for Sandy!

'When In Rome . . .' 1938 Model

"Remember you're in Reynolda . . . Cameltown. So when you're trying to sell an official of Reynolds Tobacco Co. (maker of Camel cigarettes and the city's largest industry) for Heaven's sake don't offer him a Lucky Strike!"

This is one of the first selling cautions handed down to new appliance salesmen of Bock-Stroude Co., General Electric dealer in Winston-Salem, N. C., by H. V. Trivette, head of that company's appliance department.

In other words, don't bite the cigarette that's not feeding your prospects.

West Coast Dealers Get Volume On 'Desert Cooler'; Hope It Will 'Educate' Public

(Concluded from Page 1, Column 3)

cheaply, sold at a good profit. And then the user becomes a real prospect for genuine air conditioning.

A bit of a nuisance to operate, often unsightly, the desert cooler is also a device that has a short life. After a couple of years, its usefulness is generally finished, and then the dealer is ready to talk business on a real room cooler or air-conditioning unit.

Out in the desert areas of California, Arizona, New Mexico, Nevada, Utah, Colorado, Kansas, Oklahoma, and Texas, the cheap evaporative cooler has been a real boon. One dealer termed it "the most revolutionary thing that has taken place in the high-temperature zone since man began diverting water for the reclamation of arid lands."

Among the desert cooler manufacturers are:

Star Radiator Co. ("Eskimo Air Kooler")

6409 Ceres Ave.
Los Angeles, Calif.

Hafer Sheet Metal Works
("Hafer House Kooler")

515 Broadway
El Centro, Calif.

Ace Metal Products Co.
("Ace Cooler")

5702 South Broadway
Los Angeles, Calif.

Utility Fan Corp.
("Utility Desert Kooler")

2528 Santa Fe Ave.
Los Angeles, Calif.

Air Rite Co.
("Air Rite Cooler")

2218 West Seventh
Los Angeles, Calif.

In the southwestern and Pacific desert areas where these evaporative coolers have become popular, humidity is a problem. It is a dry heat they have, in contrast with the high-humidity heat experienced in other sections. Temperatures range as high as 120°.

Leading utility in that area, the Nevada-California Electric Corp., has studied the desert cooler and its applications thoroughly, and has promoted its sale. Latest reports show more than 4,200 such installations on their lines, of which the utility has itself sold almost one fourth.

John Mangel, air-conditioning engineer for the Nevada-California Electric Corp., states that a humidity saturation of 45% seems to be most desirable in the desert regions, and that most desert coolers seem to produce effects roughly equivalent to that condition.

The excelsior pads (or "bats") need to be changed at least once and sometimes twice a year. If not, they become malodorous and inefficient. Mineral wool, glass wool, and charcoal are sometimes substituted for excelsior. Here are some of his suggestions regarding the construction of evaporative coolers:

- (1) Use a fan of ample size.
 - (a) The cubic-feet-per-minute air delivery of the fan should equal one-third to one-half the total cubic feet of air space in the house.
- (2) Use ample evaporative surface.
 - (a) Approximately 1 sq. ft. area for each 100 cu. ft. of air delivered per minute.
- (3) Pad construction.
 - (a) Pad should be about 3 inches thick.
 - (b) Excelsior should be loosely packed.
 - (c) Use horizontal strips in the pad 1 inch wide to keep the excelsior from settling.
 - (d) Construct pad so that it can be removed and opened for replacing the excelsior.
- (4) Make provision for evenly distributing the water at the top of the pad.

(5) Provide electric switch and water valve inside the house.

(6) Locate air inlet high to prevent drafts.

(7) Make cooler air-tight so that all the air must enter through the evaporative pad.

(8) Use baffle with circular opening 1 inch greater diameter than fan blade.

OPERATION

(1) Regulate water flow so that there is practically no waste.

(2) Open windows on opposite side of house to allow air to flow freely.

(3) Do not recirculate any air.

(4) On three-speed fans, the current consumption is greatly reduced on lower speeds.

Dallas Firm Is Named Detrola Distributor

DETROIT—Appointment of Hall-Young Co., Dallas, Tex., as distributor for Detrola Corp., manufacturer of radios and refrigeration equipment, has been announced by J. J. Davin, Detrola sales manager.

Mr. Davin also announced the appointment of J. M. McNamara as divisional manager in the eastern territory.

Frank Harris, former foreign sales representative for Emerson Radio & Phonograph Co., has been appointed manager of the export department.

Small-Town Cooling Sales Reported By Nevinger

GREENVILLE, Ill.—Proof that the sale of air-conditioning equipment (at good prices) is not confined to the metropolitan areas of the larger cities is given by the activities of Nevinger Mfg. Co. here, builder of air-conditioning equipment.

At the present time the Nevinger organization is installing five air-conditioning jobs in several Illinois towns ranging from 2,000 to 5,000 population. Greenville has a population of 3,800.

Mills compressors are employed with Nevinger conditioning units, which are equipped with Peerless or Fedders coils. Evaporative condensers used on most of the installations are Peerless.

Among the jobs in progress at this time are:

Grigg's 5 & 10 Cent Store, Greenville, Ill. Five-ton ceiling duct job, sold for \$1,800.

Yoffie's Ladies Ready to Wear, Hillsborough, Ill. Six-ton ceiling unit job, sold for \$1,675.

Pete Zinke Tavern, Collinsville, Ill. Six-ton ceiling unit job, \$1,800.

Scotty's Cafe, Carlyle, Ill. Two and one-half ton ceiling unit job, \$850.

Hallam's Beauty Shop, Greenville, Ill. Three-ton duct job, \$850.

Formerly a household refrigerator dealer, Mr. Nevinger now operates a retail store in Greenville, handling complete winter and summer air-conditioning equipment, including Stokol stokers, G-E oil burners, and furnaces.

Conditioning's Part In European Defenses Cited By Fleisher

NEW YORK CITY—Air conditioning is playing an increasingly important part in the national defense of European nations, stated W. L. Fleisher, chairman of the committee on research of the American Society of Heating & Ventilating Engineers, on his recent return from a six weeks' visit to England, France, and Belgium.

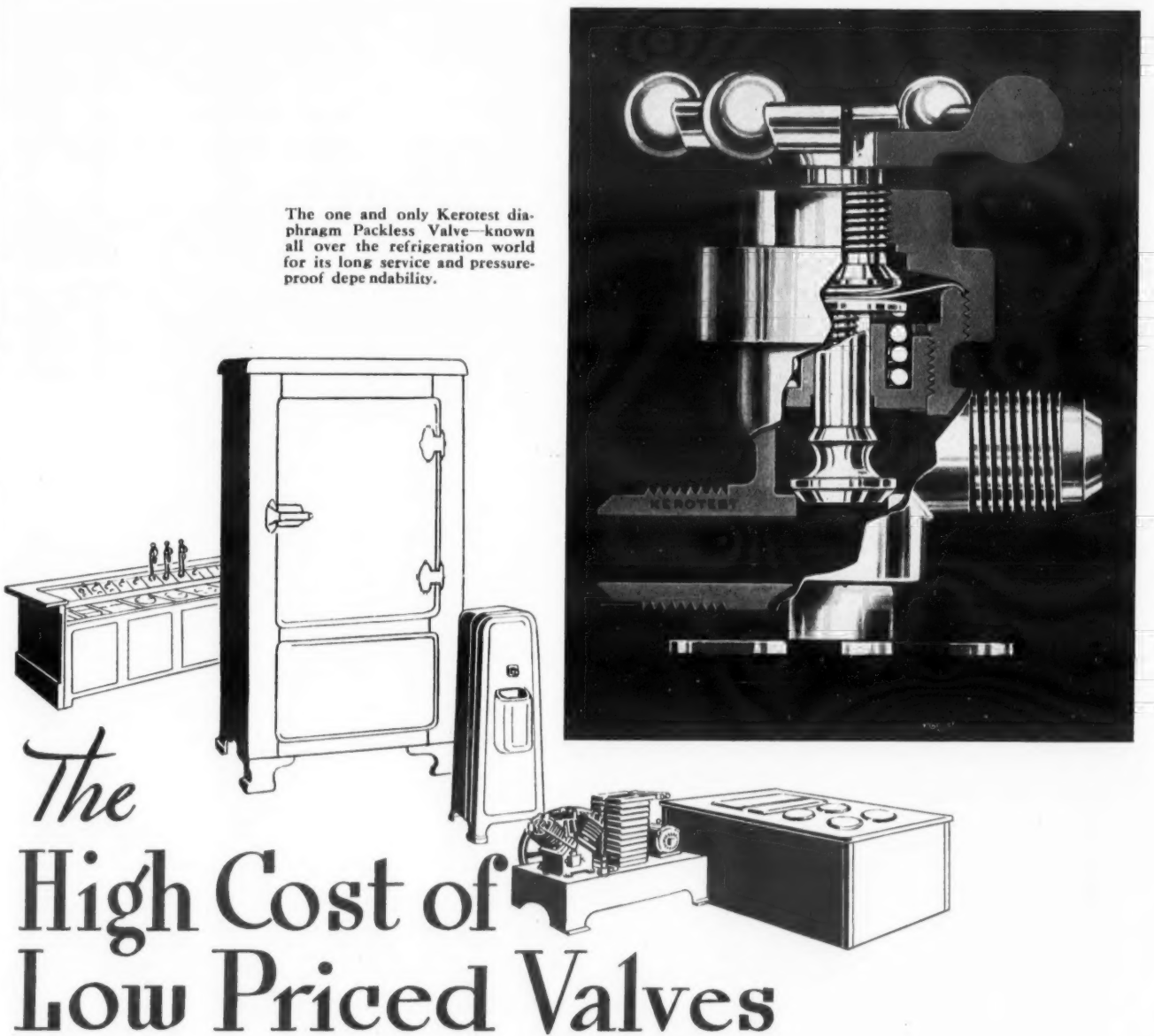
European governments, said Mr. Fleisher, are carefully studying air conditioning in its relation to protection against poison gases. Air conditioning is being employed in the manufacture of munitions and the ventilation of underground shelters for civilians in case of air raids.

For peace purposes, closer cooperation between American and European engineers and scientists in air-conditioning research is predicted by Mr. Fleisher.

He declared that he found unusual interest abroad in the physiological aspects of air conditioning as it affects human comfort and efficiency, especially for factories and offices where improved atmospheric conditions are particularly beneficial to employer and employee.

During his European tour, Mr. Fleisher spoke before the British Institute of Heating & Ventilating Engineers, the engineering school at Cambridge university, and the Societe des Ingenieurs de Belge at Brussels, Belgium.

He also inspected a number of outstanding air-conditioning jobs.



The one and only Kerotest diaphragm Packless Valve—known all over the refrigeration world for its long service and pressure-proof dependability.

The
**High Cost of
Low Priced Valves**

What price leaky valves and fittings and the consequent loss of expensive refrigerant? What price unnecessary service calls and upkeep? What price consumer disappointment and loss of business goodwill—all because the original purchase of valves and fittings was based on price not performance.

How much cheaper it is to specify genuine Kerotest Valves and Fittings—recognized throughout the industry for the extra years of trouble-free service built into every unit from the smallest fitting to the largest valve.

Extra years indeed, and more—the convenience of a nationwide network of Kerotest jobbers and representatives from coast to coast ready at all times to serve you. Call your nearest KEROTEST jobber.

KEROTEST MANUFACTURING CO.
PITTSBURGH, PA.



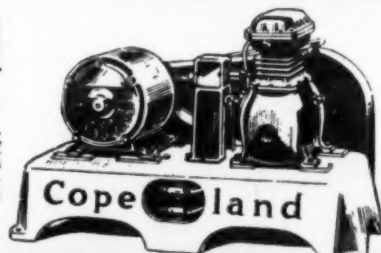
Build both PROFITS and PRESTIGE with Copeland

Commercial Refrigeration

There's a double satisfaction in selling Copeland Commercial Refrigeration. First, of course, is the extra PROFIT offered by this quality-line. And second, there's the satisfaction of knowing that every Copeland you sell adds to your reputation and prestige.

Write today for FULL FACTS about Copeland's profit opportunity.

COPELAND REFRIGERATION CORPORATION, Sidney, Ohio



Suggestions For an Accounting System To Be Used By a Dealer In Appliances

ACCOUNTING and record keeping today is a complex science. Large business organizations employ skilled accountants who tabulate thousands of items in costs alone, and spend months preparing "projections" of the business that is expected in the next month, quarter, or year.

The appliance dealer seldom has the benefit of these skilled men, and if he did they would be of little value to him, for his business might go into bankruptcy before the "experts" could assemble all the figures. Thus a system of bookkeeping that is too complex may be worse than useless for the small business.

To be of any value, the accounting system used by the appliance dealer must be simple, yet must give enough facts to provide him with a reasonably clear picture of his business at all times.

With this fact in mind, the accounting system described in this

necessary store fixtures; hires a supervisor and perhaps a few salesmen, employs a stenographer, and pays himself a salary each month.

As many appliance dealers do not carry their own service, no provision for a service department is made in the set-up. We assume that the majority of service is handled by the distributor, and that when calls outside the store are necessary, they are made by the dealer or one of his salesmen.

After our hypothetical dealer has been established in business, we set up a sheet showing the assets and liabilities of the business at the start. Later we carry the operation of the business through one month, and give a profit and loss statement showing the condition of the business at the end of that period.

Figures given in the accounting analysis are not set forth with any guarantee of accuracy. Their purpose

Account No. 2, "Accounts Receivable," consists of all sales that have been made by the company. In the case at hand we are assuming that the dealer sold merchandise during the first month having a total value of \$2,500. Money received from customers in the form of down payments or cash sales, together with cash received from finance companies when paper is sold, is credited on this ledger sheet set up for Account No. 2.

Account No. 3 is the "merchandise inventory" of the business. No matter how much is sold, the dealer will always have a certain amount of merchandise in the warehouse and on his floor. This constitutes the inventory of the business and is listed as an asset. Besides the ledger sheet devoted to inventory it is advisable to keep a separate inventory card record.

INVENTORY CARD RECORD

The inventory card record is usually kept on a 3 x 5-inch white card, in the "inventory" file. When the unit is sold and delivered the card is taken out of the "inventory" file drawer, and transferred to the "sold" file.

Information given on the inventory card should be approximately as shown in Table 2. A glance at the inventory file will tell the dealer what he has in stock both on his show floor and in the warehouse, and by looking over the "sold" file he can determine who purchased such and such an article, and the salesman who sold it. The warranty expiration date may be used in making up a uniform service record where service is to be given on equipment sold.

Account No. 4 in Table 1 shows that the dealer has purchased a truck having a total value of \$700. This total value of the truck should be depreciated each month on ledger sheet No. 4 at the rate of \$14.50 per month, which represents one twelfth of 25% of the value of the truck.

This transaction will also appear on the "Profit and Loss" statement of the business. If the truck is sold at any time and a loss taken, this loss may be set up against the profits of the business for income tax purposes.

DEPRECIATION

Account No. 5 covers store fixtures, displays, furniture, and signs, and has been assumed to be an investment of \$500. This account is depreciated at the rate of \$4.50 per month on the ledger sheet, which represents one twelfth of 10% of the value of this equipment. This investment is also depreciated on a similar 10-year basis on the monthly "profit and loss" statement.

Account No. 6 is insurance prepaid over the first year, and is charged off on the ledger sheet No. 6 on a monthly basis.

Adding all assets shown in the various accounts renders a total of \$7,258.

Liabilities are all things that must be paid out by the dealer, and all established obligations. Although operating expenses such as heat, light, telephone, and salaries constitute liabilities as soon as they are incurred each month, they can be stopped any time the dealer wishes to quit business. For simple record keeping purposes these expenses are not listed as liabilities of the business.

'FLOOR PLAN' ACCOUNT

Most appliance dealers "floor plan" a considerable proportion of the merchandise they carry in stock. Under this procedure the dealer borrows money from the finance company on a 30, 60, or 90-day basis, and the finance company discharges his obligation to the distributor from whom the dealer purchases merchandise.

We have shown in Account No. 3, "Merchandise Inventory," that the dealer has \$2,010 worth of goods on hand. Under Account No. 7, "Accounts Payable," we assume that the dealer "floor planned" \$1,400 worth of this merchandise, by borrowing this amount from the finance company. As notes signed with the finance company must be paid, they constitute definite liabilities against the business.

The ledger sheet for Account No. 7 may be subdivided among several credit companies dealt with, as Accounts 7-A, 7-B, and so forth. In each case a separate ledger sheet will show the amount owed the finance company, including interest, and all payments of notes due the finance company will be recorded on this ledger sheet as they are paid.

Table 1—Schedule Of Accounts
Major Appliance Dealer Accounting System

ASSET	
Account No.	
1. Cash on hand and in bank	\$1,500.00
2. Accounts Receivable	
Customers owing for merchandise sold.....	2,500.00
3. Merchandise Inventory:	
Refrigerators	\$510.00
Electric Stoves	450.00
Radios	600.00
Washers	350.00
Office Supplies	50.00
Radio Tubes	30.00
Miscellaneous Parts	20.00
	2,010.00
4. Truck	700.00
5. Furniture and Fixtures	500.00
6. Prepaid Insurance	
Fire	12.00
Auto	36.00
	\$7,258.00
LIABILITY*	
7. Accounts Payable	
Notes due on major appliances floor planned....	\$1,400.00
8. Notes on Truck	500.00
9. Open Accounts	100.00
	\$2,000.00
Net Worth	\$5,258.00

*Note: Indirect liability exists on customer's paper sold to finance companies. Dealer has liability until paper becomes non-recourse.

Table 2—Inventory Card

Serial No.....	Model.....	Make.....
Cost.....	Date	Invoice No.
		Date Sold.....
Salesman.....	Selling Price.....	(net)
Owner's Name.....	Address.....	
Warranty Expires.....		(date)

Prompt payments of these "floor plan" notes will establish the dealer's credit and make it easier for him to buy on open account after he has become well established in business.

Account No. 8 is the amount of money due the finance company on the truck listed under assets in Account No. 4. As payments are made on the truck account they are deducted on Ledger Sheet No. 8, which will show the balance due on the truck at all times.

Account No. 9 includes "open accounts" covering items listed as "Merchandise Inventory" of office supplies, radio tubes, and miscellaneous parts listed under Account No. 3. A separate ledger sheet should be kept for each of these accounts, together with any others that may be added, and when payments are made on any of the accounts the payments should be tabulated on the ledger sheet set up for the purpose.

ARRIVING AT NET WORTH

Liabilities total \$2,000. By subtracting this amount from the \$7,258 listed under "assets" we get a bal-

ance of \$5,258, which represents the "net worth" of the dealer.

This figure usually represents the amount the dealer has in the business, and should not be confused with "quick assets," which is the amount that could be obtained by turning the assets of the business into cash. The "net worth" of the dealer shows the actual value of the business as a going concern.

The dealer should also take into consideration his indirect liability for customer's paper sold to a finance company. While most of this paper becomes non-recourse after a certain number of months, during the first few months that the customer is paying for the appliance, the dealer is liable to the finance company and may be called upon to make certain payments for customers who are delinquent, or repossess the article and take a loss.

These indirect or contingent liabilities should be set up on a ledger sheet and the dealer will be wise in keeping a "weather eye" on this sheet at all times, to see that he does not extend himself too far in the handling of customer's paper.

(To Be Continued Next Week)

article is merely an endeavor to give the appliance dealer a working basis for a more elaborate system. The system as presented is a "skeleton," to which any number of accounts may be added.

ACCOUNTS GIVEN A NUMBER

Each account set up has a given number, corresponding to the number of a ledger sheet. The ledger sheet will show every transaction completely, and will constitute a permanent record of the business.

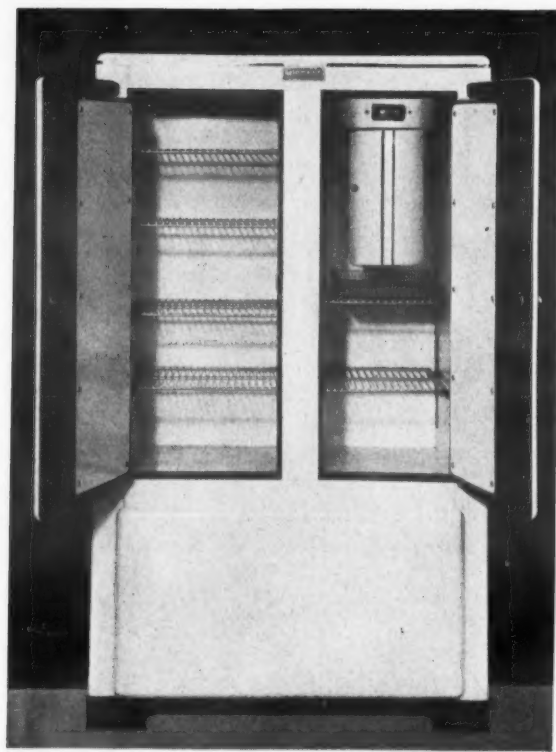
In the example presented on these pages it is assumed that the dealer enters the appliance business, rents a store, buys a truck, furniture, and

is simply to show the appliance dealer how to set up his books and records, and carry them along as the business grows. Costs will vary widely in many parts of the country, so accurate figures could not be given.

TABULATION OF ASSETS

Account No. 1, Table No. 1, under "assets" shows the amount of cash on hand plus the bank balance of the business. When withdrawals are made they should be tabulated on the ledger sheet used for this purpose, and deposits are recorded both in the bank book provided for the purpose and on the No. 1 ledger sheet.

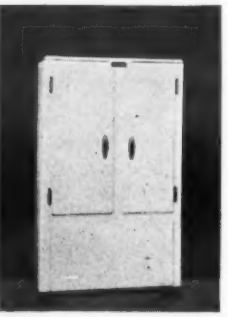
Specify MIDWEST Cabinets



"138"
NET—13.5 CU. FT.

"168"
NET—16 CU. FT.

"198"
NET—19.5 CU. FT.



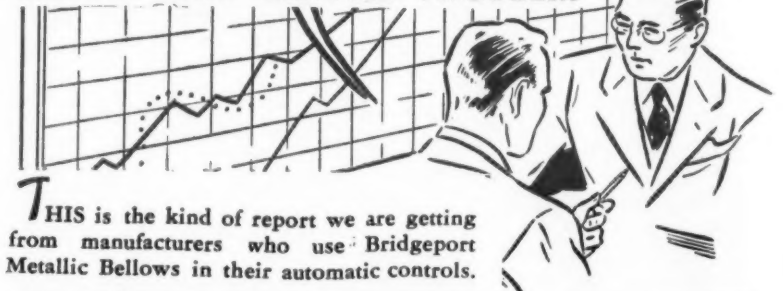
DISTRIBUTORS! GOOD TERRITORIES STILL OPEN!

To "live" commercial refrigeration distributors there are still a few good territories open. If interested, write or wire immediately. The Midwest line is gaining in popularity from coast to coast. No drastic quotas demanded. Increase your profits with a line that is manufactured—not just assembled—in one of the most modern cabinet manufacturing plants in the United States.

MIDWEST MFG. COMPANY—Calesburg, Illinois
SUCCESSOR TO MIDWEST STAMPING & ENAMELING CO.

Export Sales Office, 330 S. Wells St., Chicago. Cable Address, MIDWEST-CHICAGO

BRIDGEPORT BELLOWES Solved OUR SERVICE PROBLEM



THIS is the kind of report we are getting from manufacturers who use Bridgeport Metallic Bellowes in their automatic controls.

The Bridgeport Bellowes is usually more sensitive, more accurate, more compact and less subject to corrosion than other types of control.

Our engineers, specialists in designing controls to meet individual requirements, will be glad to cooperate with you—in strictest confidence.

SEND FOR FREE BOOKLET

Every engineer interested in designing control into his product should have our new free booklet on Bridgeport Bellowes. May we send it to you?

Bridgeport knows BELLOWES

BRIDGEPORT THERMOSTAT COMPANY, INC., Bridgeport, Conn.
5-253 General Motors Bldg., Detroit, Michigan 30 North La Salle Street, Chicago, Illinois

Air Conditioning

Distributor Points Out Favorable Conditions For Residential Cooling Sales In Texas

SAN ANTONIO, Tex.—Residential air conditioning will be of increased importance this year to W. A. Ebert, York distributor for south central Texas. The upswing in residential construction in this area is being accompanied by an increasing demand for year-around residential systems, according to Mr. Ebert.

"In the city of Corpus Christi alone our present plans call for the installation of 90 tons of residential air conditioning during the next few months. All this equipment will go in homes built on Ocean Drive, one of the better residential streets of the city," he says.

Mr. Ebert, together with his partner, A. W. Morgan, has been engaged in the heating business since 1916. The present air-conditioning business of the company grew out of experience gained in the contracting field. No salesmen are employed, and no specialty items, such as room coolers, are sold.

All sales-engineering work is handled by Mr. Ebert and Mr. Morgan, who take individual responsibility for each job, taking care of sales, estimating, purchase of materials, and supervision of installation. Mr. Ebert has found that this method of operation is superior to a division of responsibility in the contracting business.

Because of the fact that the southern portion of Texas has an average winter temperature of between 55° and 60° F., heating of residences is limited to the homes of wealthy people, Mr. Ebert asserts. A favorable gas rate starting at 66 cents per 1,000 cu. ft. and going as low as 15 cents, provides a good market for direct-fired forced-air heating equipment. All heating systems are designed to meet the requirements of summer air-conditioning, and are equipped with directional-flow high wall registers.

Summer temperatures in Texas show an outdoor dry-bulb temperature of 95° or higher and a wet-bulb temperature of 75°, with unusually low relative humidity.

"Eighty degree jobs are no good in San Antonio," Mr. Ebert asserted, in speaking of design conditions. "People demand a reduction of at least 17° in dry-bulb temperature on all jobs. This is not difficult to obtain, as the low moisture content of the air reduces the latent heat load."

In discussing some of the larger

installations made by his organization, Mr. Ebert mentions two jobs designed by M. L. Diver, registered mechanical engineer of San Antonio. Both jobs are in utility company office buildings.

Rated at 140 tons capacity, a York Freon system was installed for the San Antonio Public Service Co.'s office building. Twenty tons of this total load is devoted to the basement auditorium of the building, used by the company as a meeting place for its own organization. The conditioning unit for this section of the building is a York flooded-coil type air washer, controlled by Barber-Coleman thermostat and humidistat in the auditorium.

The balance of the building, from the first to the sixth floor, has a conditioning station on each floor, utilizing the Auditorium by-pass system of air control. All stations take in 25% fresh air from outdoors, permitting accurate control of the dew point in all parts of the system.

Ductwork is zoned into three sections, north, south, and west, as the south and west sides of the building require more cooling than the north side during summer weather. Control of ductwork branches to the individual zones and to certain private offices is maintained by a system of motor-operated dampers, actuated by room thermostats.

A feature of the installation is the fact that an incandescent lighting load of 55 tons, resulting from the elaborate indirect lighting system in the building, reduces the winter heating load by perhaps 50%, and requires the operation of cooling equipment on certain floors of the building through the winter months.

A similar installation has been made by the Ebert company in the office building of the Central Power & Light Co. of Corpus Christi, Tex. Fifty-five tons of York Freon equipment were employed in this job.

Another large installation completed by the Ebert organization during 1937 was the St. Antony hotel, San Antonio.

"This building has been completely air conditioned, with the exception of the boiler room," Mr. Ebert states. Four hundred and fifty guest rooms and all public rooms are cooled by a 350-ton conditioning system. Six complete conditioning units in the basement supply conditioned air to six distinct zones in the building.

Chicago Restaurant Promotes Its Air-Conditioning Installation With Folder For Customers

CHICAGO—Customers in the two air-conditioned dining rooms of the Lauer Sisters on Chicago's south side find on their tables a small folder in which is printed an essay—a dissertation on good air—which suggests an idea for dealers to use in promoting the idea of air conditioning through users.

"It may be interesting to refer to the earlier days when we had no wire screens and each spring red cotton mosquito netting was tacked on the windows and doors.

"The rains would make the color run, and it was not practical for business places. There were no electric fans, and many of the better eating places would have a cluster of the long tail feathers of the peacock which the waitress would wave back and forth over the table when her time would permit.

"While it did not drive the flies away, it kept them in motion and reduced the chances for them to get

into your soup or coffee. Later, when electric lights replaced the kerosene lamp, it was the custom to install large electric fans.

"Food—water—air—these are the three prime requisites of life, but are you aware of the relative importance of all three? The average individual requires every day about three and a half pounds of food, four pounds of water, and 34 pounds of air.

"In our kitchen, every precaution is taken to see that the food and water we set before you are absolutely clean.

"With our installation of the latest air-conditioning equipment, we have been able to go still further and do something about the air which you breathe and which completely surrounds you. The air here is clean and filtered, its temperature reduced to a comfortable level, excessive moisture is removed, and to further promote comfort, a gentle circulation is maintained."

39 Installations With 501-Ton Total Sold In Chicago In March

CHICAGO — Thirty-nine installations of air-conditioning equipment, totaling 501½ tons of refrigeration and aggregating 595½ connected horsepower, were sold during March in the Chicago area, according to statistics compiled by Commonwealth Edison Co., public utility company.

This represents a drop of approximately 22% compared with March of 1937, when 48 air-conditioning sales were reported, totaling 1,687 tons and 2,160 connected horsepower.

Leading the list of business classifications purchasing or contracting for air-conditioning jobs during March were restaurants, 13 of which were reported for the month. Stores, as a class, were next in order with 10 reported, and four general office conditioning jobs were contracted for during the period.

Month's largest installation was sold to the Madigan Bros. clothing store at 4030 W. Madison St., and totaled 125 tons. Another large-size system was contracted for by the Patio theater, 6000 Irving Park Blvd., and totaled 40 tons. Twenty-ton systems were contracted for by Turner Recreation, 7937 S. Chicago Ave.; Thos. J. Dee & Co., 1900 W. Kinzie, for a general office; O'Connell's restaurant, 538 Diversey Ave.; and Steinway Drug store, 1380 E. Hyde Park.

A system of 25-ton capacity was contracted for by Vine Gardens

Restaurant, 616 W. North Ave., and 15-ton systems were sold to James J. Thompson funeral parlor, 1716 W. 63rd St.; general offices of North German Lloyd, 130 W. Randolph St.; and seven restaurants: Goldberg's, Greene's, The Hut, Melrose Grill, Pellegrini's Italian, Thompson's, and Williams'.

Six room cooler installations were made during the month, five of them going into doctors' offices and the other installation, comprising two units, being made in a residence.

Tabulated list of business classifications to which conditioning systems were sold during March follows:

Restaurants	13
General offices	4
Clothing stores	3
Candy stores	2
Drug stores	2
Funeral parlors	2
Miscellaneous stores	2
Fur store	1
Theater	1
Recreation center	1
Church chapel	1
Medical-dental clinic	1
Room coolers	6

Supper Club Adds Cooling To Retain Summer Trade

PHILADELPHIA — An air-conditioning system comprised of a 7½-hp. condensing unit and a ¾-hp. fan is being installed in "Boo Boo" Hoff's "21 Club" here to solve the supper club's problem of holding customers during hot weather.

In the past, the club has been obliged to close during July and August because of the uncomfortable heat.

'38 Carrier Portable Conditioner Builds Pressure In Room

SYRACUSE, N. Y.—With a number of new features, the new 1938 Carrier portable summer air conditioner was announced last week by L. R. Boulware, vice president and general manager of Carrier Corp.

The 1938 Carrier portable air conditioner offers a new engineering development which is said to actually build pressure in the room. Through this development, the unit under normal operation admits a larger quantity of outside air and builds a pressure slightly in excess of the adjoining room or outside hall. This provides added ventilation facilities for elimination of smoke and odors.

Another engineering feature claimed is the larger air discharge opening which is said to give an 11.5% increase in the volume of conditioned air delivered to the room.

The 1938 unit is a compact portable air conditioner mounted on casters for added mobility. Another feature is the diffusion system which is built into the cabinet and distributes the conditioned air to all parts of the room automatically without manual adjustment.

Other developments include a large size filter; a new type "economizer" to reduce operating costs; and an outside air duct to eliminate adjusting or fitting at the time of the installation.

Refrigeration unit for this self-contained model is in cabinet base.

You can't fool a BTU



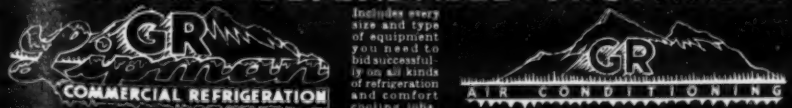
- A magician can fool your eye but he can't fool a BTU. Fedders Coils are ALL-COPPER. Every engineering authority rates Copper as double the heat transfer ability of the next commercial metal.
- Fedders Copper Fins and Copper Tubes both have the same rate of expansion, and they eliminate electrolysis commonly occurring when two different metals are used... Fedders Fins STAY TIGHT ON THE TUBES.
- There are no obstructions inside of Fedders tubes to decrease back pressure and reduce compressor efficiency.
- Conservatively and accurately rated—use Fedders ALL-COPPER Coils and be SURE! Sold by Representative Suppliers.

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Fewer Dealers—And Better

STUDY of the nation's retail merchandising set-up for electric refrigerators has finally convinced a good many sales managers that there were too many dealers in 1937.

As one sales executive put it: "We went ahead on the theory that if one hen can lay one egg, a thousand hens can lay a thousand eggs. But we soon found that instead of laying eggs, the hens turned to scratching and pecking at one another."

Undoubtedly the surplus of dealers had a great deal to do with the industry's inventories at the beginning of 1937. Predicating production on the basis of a large number of dealers, with quotas for each, it was easy to become over-optimistic about total figures.

Intensive Selling Helps Inventory Control

A few concerns last year weeded out their dealer organizations, however; and concentrated their efforts on the better type of dealers, who were given more ample territories and a better measure of price control. Reward for this foresight came early in 1938 when, with inventories low or practically nil, they were able to go into the current season with cash in the till and clean floors—all set for the new models.

An excess of dealers in any territory invariably seems to lead to price wars, no matter what shape general business conditions may be in, or how ready buyers may seem to be. The weaker ones cannot compete with the stronger, and so they turn to price cutting, partly in retaliation, and partly to save some of their investment in merchandise.

Coming of the FHA finance plan did a great deal to muddy up the waters in this respect. Dealers were signed who had no business signing. Hundreds of these fell by

the wayside. They sold refrigerators and other appliances willy-nilly to families with shaky credit.

Repossessions fell back in their laps. The business didn't look so soft and rosy as it first had seemed. So they abandoned it.

These repossessed jobs—sold in the main to people who shouldn't have had them in the first place—bulked up in the market, and added to the troubles of the man who was trying to sell new merchandise at list prices.

As a result, there seems to be a widespread activity on the part of distributors to cut down on the number of dealers, to work only with those of proved selling ability and sound financial position. These dealers, given better territorial arrangements, are going after new business with real vim.

Price Wars Chase

Good Salesmen Away

What's more, they are now enabled to make better compensation arrangements with salesmen, and thus to keep the best specialty salesmen available working full time and with a real interest in their jobs.

Price wars are always expensive because of their effect on salesmen. The reductions, to quite an extent, come out of their hides. Many of them drift into other lines. And the industry needs its good specialty salesmen. They made the refrigeration business a national leader through the worst years of the depression, and they can do the same thing today, during the so-called recession.

Good dealers, with good financial backing, good salesmen, and good territories make for a sound business. They know their territories, and their estimates can help production control. They know their business, and their insistence on profits will help price control. And their desire to stay in business automatically makes for sound merchandising and a stabilized industry.

Fewer dealers—and better—might be a good slogan for 1938.

QUOTED

Aiding Air Conditioning

It is characteristic of new undertakings that in solving old problems they create new ones, and so it is not surprising to learn that the rise of air conditioning is causing some head scratching in large cities. Although air-conditioning plants are said to have increased 1,400% in four years, the industry is hardly out of the infancy stage. Yet several cities already have been compelled to restrict cooling system installation, due to the drain either on the water supply system or on drainage facilities.

Twenty-three cities reported to the commerce department a gain in water consumption of 10 to 30% since 1931, with some indicating water facilities insufficient to permit indiscriminate expansion of the cooling systems. Cities have tried to anticipate their water requirements and build their supply systems to meet future needs, but the demand for air cooling was not something that could be foretold. To meet unexpected new needs large investments would have to be made.

The difficulty could be solved either by restricting installation permits or raising water rates, but the engineers have a better way. There is no reason why air-cooling progress should be halted, they find, because either the cooling tower or what is known as the evaporative condenser makes it possible to use the water over and over, thus solving the problems of water supply and water disposal at the same time. Already those devices have come into rather wide use, indicating that there will be no serious check of the spread of the conveniences of air conditioning in summer and winter.—New Orleans Times-Picayune.

LETTERS

Swedish Engineer Questions Capacities

Aktiebolaget Elektrolux
Stockholm, Sweden

Editor:

From your 1938 specifications of household electric refrigerators we have tabulated the following data:

	A Gross Internal Volume Cu. Ft.	B Net Food Storage Capacity /Nema Rating/ Cu. Ft.	C In Percent Of A
Frigidaire			
D-3	3.18	3.1	97.5
Master 4-38	4.28	4.1	95.8
Master 5-38	5.41	5.1	94.3
General Electric			
B3-38	3.17	2.8	88.3
B4-38	4.36	4.0	91.7
Kelvinator			
K3-38	3.39	3.14	92.6
K4-38	4.23	4.10	96.9
K5-38	5.40	5.12	94.8
Norge			
R-32-8	3.55	3.16	89.0
R-41-8	4.57	4.14	90.6
Westinghouse			
HDS-32	3.46	3.25	93.8

From the above examples it appears that there is a very wide variation in the difference between gross and net volume, and some net food storage figures given are so high that they appear impossible.

We should be interested in your remarks and explanations.

N. LAURIN

Schaefer Making Frosted Foods Cabinets

Harold L. Schaefer, Inc.
Minneapolis, Minn.

Editor:

We notice in one of your recent issues you answered an inquiry about frozen food cases, and we are wondering whether or not you realize that we also are manufacturing frosted food cabinets.

G. E. BERRER,
Sales Manager

Data Is Available On Trade-In Plans

Frigidaire Div.
General Motors Sales Corp.
2615 W. Seventh St., Fort Worth, Tex.

Editor:

I will appreciate it if you will send me any successful plans you may have on electric household refrigerator trade-ins.

S. C. HAGY,
Central Divisional Mgr.
Answer: There is a great deal of information on trade-in practices published in the appendix to "Appliance Selling Today," a new book which we have just published which provides information about selling, promotion, and management methods for dealers. (See review on this page.)
There has also been issued recently a new book giving market index of used refrigerator trade-in values. This is available from Herman Hantober, 96 Fifth Ave., New York City, at a cost of \$3.00.

He Seeks Advice On Buying a Conditioner

4716 St. John's Drive
Dallas, Texas

Sirs:

I am intending to purchase a 3-hp. self-contained air-conditioning unit of which there seem to be several on the market.

I've heard of the sales points on a couple of the units, but will you please tell which is the most efficient so far as capacity is concerned, particularly of the Airtemp and Delco-Frigidaire.

It is hard to get a neutral opinion based on facts which I hope you will be able to give me.

FRANK A. HOKE

Answer: It is true that we publish a weekly newspaper for the refrigeration and air-conditioning industry, that we keep in close touch with all the manufacturers, that we report the detailed specifications of all models of all makes on the market, and that we are personally acquainted with most of the manufacturing executives, the leading distributors, and a large number of the dealers in all parts of the country.

It might seem reasonable, therefore, to assume that we should be able to give valuable assistance to prospective buyers of refrigeration and air-conditioning equipment. There are several very good reasons, however, why we should not do so.

In the first place, we do not operate a testing laboratory and we have no

facilities for making scientific tests to determine the comparative merits of the various types and makes of equipment on the market. We do not attempt to pass judgment on the relative merits of competitive makes. That is not our job. We simply report the news and let our readers draw their own conclusions.

In the second place, we are not prepared to offer a financial service, or advice to investors, and we make no effort to keep a close check on the financial operations of the various companies, such as would be necessary to arrive at any opinion regarding the future success or failure of any company.

The distributors of refrigeration and air-conditioning equipment, who deal directly with the manufacturers, are invariably men of wide business experience who rightfully consider themselves quite competent to look after themselves in their relations with the manufacturers.

The dealers who buy from the distributors usually do business with concerns in their own territory. The dealers look to the distributors to protect them in the selection of reliable products.

In the same manner we believe your interests will be served best by putting your faith in a local dealer whose reputation for good judgment and fair dealing is sufficient to justify your confidence.

Air-Conditioning Installations By Cities

J. M. Mathes, Inc.
122 East 42nd St., New York City

Sirs:

Will you kindly send me a list of air-conditioning installations in the United States, if you have such a list.

If there is any charge for this list and you will either send your bill or send it c.o.d., I will be glad to pay for same.

GORDON E. HYDE

Answer: We published last year a book called "Air Conditioning Surveys" which gives installations for comfort cooling made in 55 trading centers in the United States. This book is available at a cost of 50 cents.

"Air Conditioning Surveys" covers all installations through 1936 in the various trading centers from which the information was obtained.

Information on 1937 installations has been published in various issues of AIR CONDITIONING & REFRIGERATION NEWS since the first of the year.

Criticism From a Canadian Neighbor

Advertising & Sales Promotion Mgr.
Davis Automatic Controls Co.
145 Wellington St., W.
Toronto, Canada

Editor:

My appreciation of your highly interesting book, "Around the World With A Candid Camera," does not prevent me, as a citizen of the British Empire, from criticizing some of the statements given in this publication.

My criticisms, you will understand, may be biased by my citizenship and I make this statement as a prelude to my criticism.

"That no nation can have international interests in trade and commerce beyond its own boundaries without being drawn into conflicts which may arise where their interests are located in various countries without being prepared to relinquish all such interests beyond their boundaries."

Therefore, I do not believe the United States of America can remain aloof from world affairs whether in Europe or Asia without being prepared to give up all interests which may conflict with other nations and at the same time losing considerable prestige in the process.

Some time ago when I was in Chicago I was impressed by the express desire of the newspapers and newsreels that the United States should have nothing to do with affairs in China and on the other hand that the individuals with whom I came in contact felt that the United States should not abandon her interests in China. It is a question in my mind whether the press in the United States is reflecting the public opinion there or otherwise.

A further interesting comparison of the United States and British business conditions revolves around the doubt raised by your own Roger Babson in his book "Business Fundamentals" in which it is asked why business conditions in the United States can apparently change from boom to depression almost overnight. Business activities change so rapidly in the United States as to bewilder many a British business man.

An example of this is the change in conditions last fall which was reflected in Canadian business to a much smaller extent than in the United States.

I hope to have the pleasure of meeting George Taubeneck in the near future.

C. R. DAVIS

Book Review

'Appliance Selling Today'

"**A**PPLIANCE Selling Today," a book aimed to provide electrical appliance dealers, distributors, and salesmen with merchandising, sales promotion, and store management ideas taken from the experiences of others in the business who used the ideas described with success, has just been published by Business News Publishing Co., publishers of AIR CONDITIONING & REFRIGERATION NEWS.

There are 128 pages (8½ x 11-inch page size) in this new book, which is priced at \$1.00.

Most of the material in "Appliance Selling Today" appeared in various issues of AIR CONDITIONING & REFRIGERATION NEWS during the past year, but the information has been condensed and correlated to give the reader a maximum amount of information about a particular phase of the appliance business in a minimum of reading time.

The book is divided into nine chapters, and an Appendix. Chapter headings, which provide a clue as to the contents, are as follows:

1. How Some Successful Dealers Operate.
2. The Modern Appliance Distributor.
3. The Training, Directing, and Payment of Salesmen.
4. Selling the Electric Range.
5. Selling the All-Electric Kitchen.
6. Advertising and Sales Promotion—Ideas and Methods.
7. Getting Prospects.
8. Methods Used By Successful Salesmen.
9. Displays—In and Out Of the Store.

In the Appendix, which is comprised of three sections, there is offered data on trade-in allowance plans on electric refrigerators; the organization of dealer associations and the formulation of trade practice codes; and an analysis of cost averages for the operation of electrical appliance stores. Trade-in allowance plans presented are those which have been used by dealer groups in various parts of the country.

The various ideas presented in the chapters are "self-contained," that is, each story of a sales program, promotion stunt, or management plan is complete in itself.

For example, such sub-headings in Chapter 1 as "A Store That Makes All Contacts by Phone and Mail"; "Making Used Refrigerators Do a Selling Job"; and "Use of the Home Trial Plan" offer a picture of the many types of ideas and subjects covered.

In Chapter 2 are provided descriptions of some of the methods which have been used with success by the specialty appliance distributor under modern appliance distributing conditions. Chapter 3 tells of the various formulas used by dealers to get the best results from salesmen, and outlines several methods of compensating retail salesmen.

Chapter 4 is really a primer on electric range selling, for it covers all phases of range merchandising. This leads the reader naturally into Chapter 5, "Selling the All-Electric Kitchen," which provides many suggestions for ensemble selling of appliances.

In Chapter 6, dealing with advertising and sales promotion, an effort is made to provide the dealer with some ideas that are "different" from the usual run of dealer efforts along this line. Plans for use in newspapers, the radio, direct mail, and in special stunts are described.

Chapters 7 and 8, "Getting Prospects" and "Methods Used By Successful Salesmen," go hand-in-hand, both giving the reader a host of concrete ideas on how to get the names of prospects, and on various approaches to obtaining an order. Any one of the ideas presented may well mean the making of a sale by the dealer or salesman who reads them.

Chapter 9 is divided into three sections: (1) window displays; (2) displays on the showroom floor; and (3) taking displays into the field—use of trailers. Here again the editors have attempted to provide some new schemes for the dealer, to outline novel display methods that will gain the attention of prospective buyers.

The book is amply illustrated throughout, but particular effort was made to illustrate nearly all of the ideas presented in Chapter 9.

New Detroit Dealer Association Code To Cover Many Phases Of Retailer's Business

(Concluded from Page 1, Column 5)

grieved with the conduct of another dealer in the performance of his business, he should report same to offices of the Detroit Appliance Dealers Association, which will act as a clearing house to help iron out all irregularities, or take formal action in order to correct unethical practices.

"2. The price, model, serial number and year model of appliances such as refrigerators, radios, stoves and washing machines, held out for sale by dealers shall be conspicuously marked on the price-tag. The same data should be contained on sales slips or bills of sales given to the purchaser. No markings should in any way be used so as to mislead the prospective customer.

"3. All advertising should be simple and in no way misleading, and should conform to the rules and ethics of the Better Business Bureau of Detroit.

"4. Salesmen employed by dealers shall be registered in the offices of the Association by their employer; all transfers of employment from one dealer to another should also be recorded.

"5. No discount shall be allowed to any employee save for his own personal use.

PROVISION ON DISCOUNTS

"6. There shall be no discount given to a customer that is unauthorized by the manufacturer of the commodity sold, nor shall any dealer give a discount to any group of purchasers or individual purchasing for a group; it shall be permissible to give a discount not exceeding 10% to a building contractor, provided, however, he presents his building permit and the number of said permit is recorded on the sales tickets. It shall be permissible to give a discount to owners of multiple dwellings on purchases of five or more units to be used only for said multiple dwellings. No cash discounts shall be permissible under any circumstance nor shall any article be given to a customer by way of a gift or premium.

"7. The practice of allowances by way of trade towards the purchase of another commodity should be discouraged. No trade-in allowance exceeding \$3 shall be given to any customer towards the purchase of any unit. One half the allowance shall be paid by salesman, who will be reimbursed if article is sold.

"8. Splitting of commissions by salesmen in any form in order to induce a customer to make a purchase is prohibited.

"9. No dealer shall in any way sell appliances to another dealer unless in each instance written permission of the manufacturer or distributor authorizing such sale is given.

HITS DISTRIBUTOR SELLING

"10. It shall not be permissible for a distributor, manufacturer or wholesaler to in any way make retail sales nor sell at wholesale to the buying public.

"11. All appliance dealers shall refrain from doing business on Sunday and stores shall be closed for business on that day.

"12. All dealers or their authorized representatives are required to attend the monthly meeting of the Association."

A special meeting of the appliance dealers is being held tonight (Wednesday) to make important decisions on vital matters concerning the trade. Joseph A. Creed, executive secretary of the association, estimated that attendance at the meeting would be about 100.

To inform manufacturers of appliances about the association and its

activities, Mr. Creed has sent a form letter to companies throughout the country.

"The Detroit appliance dealers have organized themselves into an association known as the Detroit Appliance Dealers Association," the letter begins.

"The purpose of this organization is to promote a higher ethical plane for merchandising appliances, and to promote uniformity of conduct and policy that will benefit both the trade and the buying public.

"There have been in the past many practices among both the manufacturer, distributor and the dealer that tended towards conduct in the trade that was similar to the 'law of the jungle.' Such practices resulted in a small marginal profit, disastrous price cutting, misrepresentation concerning the commodity to be sold, and a general feeling of dissatisfaction.

ASKS REGISTRATION

"In Michigan we have a law known as the Fair Trade Law. WE ASK YOU TO REGISTER YOUR PRODUCTS UNDER THIS LAW.

"In a recent survey made, statistics showed that the sales of one appliance alone, namely refrigerators, increased throughout the United States 18% for the year 1937 over the year 1936. The dealers in a great majority of cases have not had such an increase in profits. A great many of them, in fact, ended up in the red.

"Can we receive the cooperation of your company towards promoting uniformity of conduct in the trade, fair trade practices, ethical sales methods and honest advertising?"

Court Ruling Only Spurs N.Y. Dealers' Price-Cutting Fight

(Concluded from Page 1, Column 3)

Crawford Act and of contractual agreements, the plaintiff dealers had declared that issuance of an injunction would have a widespread effect throughout the industry.

H. M. Stein, president of the Davega chain, however, had said that issuance of the injunction against his company and Vim would be of no benefit to the plaintiffs, since many new models not having fixed prices had been brought out by manufacturers since the original fair trade agreements were made.

William F. Bleakley, counsel for the two defendants, said that his clients would prefer to sell at higher prices, if possible, but that prices had been lowered by other companies, that manufacturers were making no attempt to maintain list prices, and that dealers could only sell for whatever prices they could obtain.

DEALERS PLAN HOLD-OUT

Aroused by the unfavorable decision, a group of dealer-members of the Westchester Gas & Electrical Appliance Dealers Association, meeting last week to discuss the court ruling, indicated they would band together in a "last ditch" hold-out against 1939 radio models until distributors take measures to bar repetition of the 1937-1938 price-cutting situation. Mr. Cooper is president of the Westchester association.

In his decision denying a temporary injunction to Radio Dealers Cooper and Kline, Justice Patterson held that current conditions in the radio industry are "chaotic and demoralized," and that retailers are not obliged either by the Feld-Crawford Fair Trade Act or by contractual

agreements with manufacturers to charge list prices fixed by manufacturers.

"There can be no doubt, from the papers submitted, that the defendants have sold the makes or types of radios in question at prices greatly below those fixed in the price maintenance contracts between the manufacturers and their retailers," Justice Patterson said.

"It being established that the plaintiffs are entitled to maintain this action in the event that the defendants had been guilty of cutting prices below those fixed by the manufacturer for the sale of the radios in question . . . the query then follows, why are the plaintiffs not entitled to the equitable relief they seek?"

"It clearly appears, without much serious contradiction on the part of the plaintiffs, that the efforts to enforce the Feld-Crawford Act, as applied to the sale of radios, have failed utterly, and the industry is in a wholly chaotic and demoralized condition.

OBSERVANCE THE EXCEPTION?

"Observance of the contracts seems to be the rare exception. There are many causes for this. First, the manufacturers or distributors themselves are largely to blame, notwithstanding that the primary aim of the law was to protect the goodwill of the producers; the general economic conditions; the depressed market for radios and the advent of new models, rendering the old and outmoded unmarketable at anywhere near the prices as fixed, have all contributed to this condition.

"The very contracts upon which the plaintiffs predicate this action permit discounts for list prices under the guise of so-called trade-in allowances. This opens the door wide to the greatest abuses, and has resulted in a condition where the law is of little, if any, value for the protection of the retailer, and has negated the whole purpose and spirit of the act.

"Then, too, the manufacturer has contributed to the present condition by greatly reducing the cost price to the retailer, without in turn reducing the price for which the retailer can sell. Manufacturers have made reductions up to 30% in the wholesale price of radios to dealers, but did not take the trouble to reduce the fictitious retail prices prescribed by their contracts.

"These reductions in the wholesale prices were passed on to the consumer in the form of increased allowance to a retail purchaser.

HOW THE COURT FELT

"Because of the highly competitive conditions of the radio industry at the present time, a temporary injunction can be of but little aid to the plaintiffs, and may work irreparable damage to the defendants. It would seem that the collapse of the retail radio price structure, and the general disregard of all list prices since the promulgation of the contracts in question, has made selling at economic levels an economic necessity.

"Were the injunction granted, it could afford no appreciable relief to the plaintiffs, as it would mean merely the elimination of a couple of competitors in a field in which it is represented there are 5,000 radio dealers who are competing with the plaintiffs and defendants."

Radio Makers Plan For Production Control

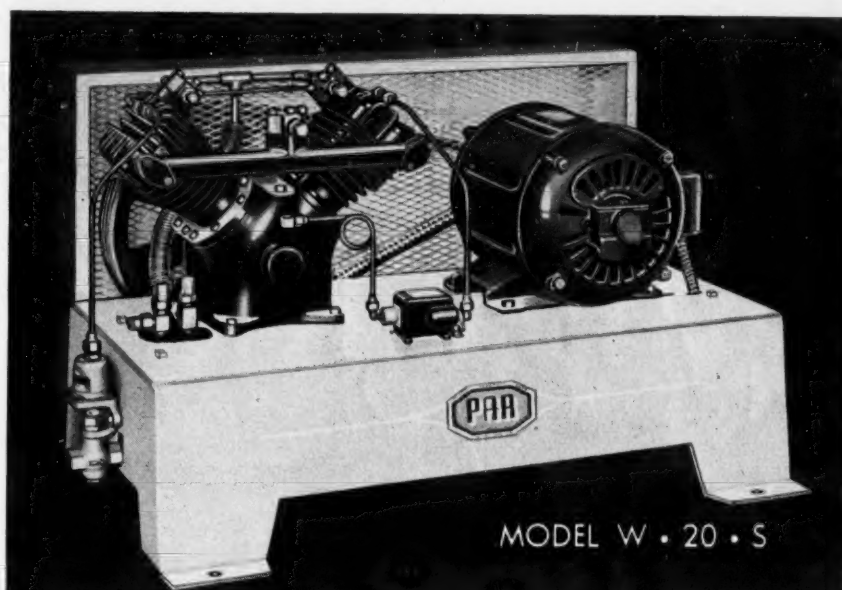
(Concluded from Page 1, Column 2)

is expected the plan will be put into effect about June 1.

Appointment of a special committee to confer with government officials on the Walsh-Healy Act as it affects the radio industry also was made at the directors' meeting, Mr. Geddes said. Scheduled for April 26, this meeting will be preliminary to a public hearing intended to determine minimum wages for the industry and consider Southern differentials, as well as separate classifications for parts and tube manufacturers.

Industry banquet will be held June 8 in the Stevens hotel, Chicago, in connection with the National Parts Show, it was decided at the meeting.

Directors also discussed an industry-wide promotional program, to include broadcasters, without taking definite action, and considered a proposal to stage a radio and electrical show in Madison Square Garden in September.



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- ★ Fin tube and shell condensers, 25 sq. ft. per H.P.
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- ★ Thermal overload protection
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There are six compressor bodies and twenty-eight complete high-sides in the Par line, in a range of sizes from $\frac{1}{4}$ to 20 horsepower.



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| Birmingham, Alabama
Refrigeration Supplies
Distributor | Jacksonville, Florida
The Jamita Co. | Richmond, Virginia
A. R. Tiller, Inc. |
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Factors In Design Of Complete Cooling System For 600-Quart-a-Day Dairy Farm

SYRACUSE, N. Y.—Design and installation of a complete refrigeration system for the Chesterbrook Farm Dairies, a modern dairy farm near Berwyn, Pa., were outlined at the recent conference on commercial refrigeration held by Carrier Corp. at its plant here.

In describing how refrigerating equipment is used on the farm, it was explained that as soon as milk is drawn from the cow, it should be chilled, without undue exposure to air, and kept cold until used.

If milk is to be pasteurized, it is first cooled, then heated rapidly to 142° F., held for approximately 20 minutes at this temperature, then cooled to 42° F. in a few seconds, as it flows over the cooler and into the bottling machine.

CONDITIONS REQUIRED

The bottled milk is immediately put into a refrigerator and held at 35 to 40° F. prior to being loaded onto the delivery trucks.

Handling of milk, Carrier dealers were told, is controlled by strictly enforced legislation, and in many townships by a local milk control board. Lower Merion Township, in Pennsylvania, inspects the source of all dairy products that enter it, and makes it necessary for the distributing companies to comply with rigid regulations. Otherwise, none of their dairy products may be sold within the township.

BASIS OF ESTIMATES

Equipment for the Chesterbrook Farm was made on the basis of an estimated cooling of 600 quarts of inspected raw milk per day.

Cows are milked twice daily, with each milking period being about 1½ hours. The milk from each cow is weighed and immediately dumped in the receiving tank, flows over the surface cooler, and is bottled. The

flow from the dump tank to the surface cooler is controlled by a valve set to provide an even rate of flow.

Refrigerating system used is of the brine storage type to permit the use of a small compressor that cools a volume of brine sufficient to cool the milk on an approximate 10° temperature rise of the entire volume of brine.

Because of local conditions it was found desirable to cool the milk through the entire range of approximately 95° to 40° with brine.

BRINE PUMP CONTROL

The storage refrigerator is cooled by a forced-draft cooling unit through which brine is circulated by the brine pump. A hand by-pass is provided so the brine may return direct to the tank during the milk-cooling period if desired.

While milk is being cooled the brine pump is controlled manually. When milk is not being cooled on the surface cooler, the pump is started and stopped by a thermostat in the refrigerator, and the brine valves are set so the brine passes only through the diffuser and returns to the tank.

REASON FOR BRINE SYSTEM

The refrigerating unit is thermostatically controlled by the brine temperature. A brine storage system is used for the same reason that a water storage tank would be used if the demand were great for two short periods per day. This system permits the installation of a relatively small refrigerating machine with a proportionately small connected load. It was also explained that the storage refrigerator is cooled by brine as the pump is an essential part of the milk cooling installation, and when so used, simplifies controls.

The point was made that the forced-draft cooling unit should be

proportionately large so that the refrigerator cooling could be done with relatively high temperature brine, thus avoiding the possibility of heavy frost formation.

KEEPS COST LOWER

Also, the higher the brine temperature, the greater the refrigerating capacity of the compressor, due to high suction temperatures and low brake horsepower per unit of refrigeration. The evaporating surface is therefore liberally proportioned.

It is good practice to allow liberal capacity on any milk cooling installation, Carrier engineers said, as the upper temperature limit is very definite.

In the operation of this system, it was found advisable to throttle the flow of brine to the cooler when the temperature is low in first starting up, gradually increasing the rate of brine flow as the temperature rises. Because of this, it was found desirable to use a centrifugal-type pump.

In conclusion, the Carrier engineers pointed out that an installation of this type is economical in a dairy handling 2,000 to 2,500 quarts of milk per day, depending on such conditions as length of cooling period, supply of water for partial cooling, etc. For the larger dairy, the recommendation was made that direct expansion cooling be used.

New Fruit Juice 'Aerator' Claimed To Preserve Original Flavor

BERKELEY, Calif.—Orange juice delivered to the customer in all its original quality and flavor is the achievement claimed by Citrus Products Laboratory, by the use of a new type "aerator" for fruit juices.

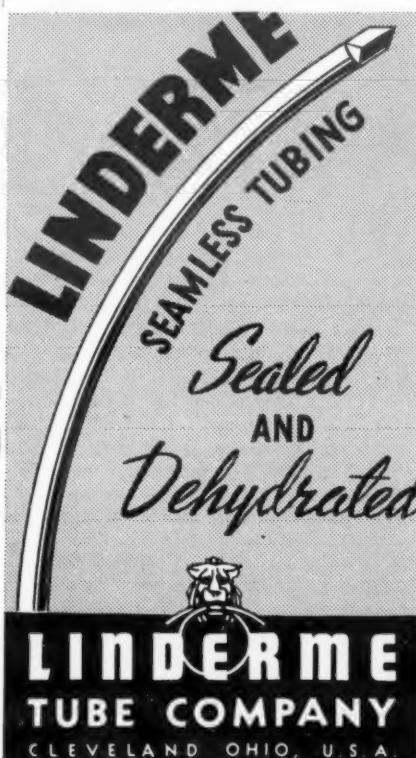
The cooling device consists of a series of refrigeration coils covered with stainless steel, protected by a plate-glass front, to protect the juice from dust, dirt, and bacteria. Cooling for the refrigerant coils is furnished by a 1-hp. Frigidaire compressor.

Oranges are washed, halved, and the juice is automatically extracted. The fresh juice is then permitted to run down over the refrigerated surface, similar to the operation of devices used for cooling milk. The juice is then collected in chilled glass containers.

It is claimed that doctors and hospitals prefer juice extracted and instantly cooled in this manner, as the juice does not have any chance to ferment in the open air. Schools and institutions also have used the refrigerated product.



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CLEVELAND, OHIO, U.S.A.

Calculations For a Dairy Farm

Chesterbrook Farms

REFRIGERATION CALCULATIONS

Refrigerator Cooling—7 feet by 5 feet by 7 feet inside (245 cu. ft.). Allow 8 feet by 6 feet by 8 feet or 320 square feet outside.

(90-35) × 320 × .08	1,410
Door loss 245 × .035 × 55	714
Milk cooling in refrig.: (300 × 2.2 × 5°) ÷ 8 ..	413
Ignore cases and bottles on so small a job.....	.....

	2,537
Overall safety factor 15%	380
	2,917

$$\frac{2,917}{3.16 \times .92} = 1,002 \text{ effective air requirement}$$

Diffuser used at 1,750 r.p.m. or 1,780 effective air. This gives effective cooling with higher brine temperatures of approximately 35°, air motion not critical.

Milk Cooling (milking period night and morning). 300 qts. × 2.2 lbs. per qt. × (95-40°)	36,300
10% pump and line losses	3,630
B.t.u. heat removal required to cool 300 qts. at one milking..	39,930

SIZE BRINE TANK REQUIRED

Assume 64 cu. ft. of brine available at 10° temperature rise. Choose 12° freezing point of brine for safety, or about 15 lbs. of calcium per cubic foot. The specific heat will be approximately .725, the specific gravity 1.14, and weight per cubic foot, 71.2 lbs. Total weight of brine is 64 × 71.2 = 4,557 lbs. The refrigerating effect on 10° temperature rise will, therefore, be

$$4,557 \times 10^\circ \times .725 = 33,040 \text{ B.t.u.}$$

$$\text{or on } 12^\circ \text{ rise it will be } 4,557 \times 12^\circ \times .725 = 39,646 \text{ B.t.u.}$$

Figure on brine rise of approximately 22 to 34°. (Note: Refrigerating machine capacity during milk cooling period not included as precaution against temporary failure.)

SIZING BRINE TANK

Make brine tank in proportion to suit local conditions.

8 feet long, 2 feet wide, 4 feet 6 inches high = 72 gross cubic feet. This will allow better than 64 net cubic feet of brine.

BRINE TANK HEAT LOSS

122 sq. ft. of exposed surface.

$$122 \times (90-20) \times .08 = 683 \text{ B.t.u. per hour.}$$

COMPRESSOR SELECTION

Determine total load for 24 hours.

Refrigerator—choose average refrigerator summer load at 2,500 B.t.u. per hour or,

2,500 × 24 =	60,000
Milk cooling 39,930 × 2 =	79,860
Brine tank loss 683 × 24 =	16,392
Total load for 24 hours =	156,252 or average of 6,511 B.t.u. per hour.

The condensing unit was conservatively chosen for about 12,000 B.t.u. per hour or approximately half time operation in summer. An ammonia unit was preferred by the purchaser.

A Carrier unit with 1½-hp. motor with compressor speed of 300 r.p.m. gives the required capacity at 26° suction temperature.

EVAPORATING SURFACE

Use 1¼ inch extra heavy welded coil in brine tank. Heat transfer coefficient 5.65 B.t.u. per hour per lineal foot per degree temperature difference for still brine. Assume 7° temperature difference:

$$12,000 \div (7 \times 5.65) = 300 \text{ lineal feet}$$

Use one equalized thermostatic expansion valve.

BRINE PUMP SELECTION

Milk is poured over cooler by the bucket full as it is milked. All the cooling is done by the brine. Maximum rate of flow approximately:

Six quarts per minute or 13.2 lbs. per minute = 6 × 2.2. Cooling rate 95° to 40° or 55° taken out of milk. 13.2 × 55 × 1 = 725 B.t.u. greatest cooling load in any one minute, allowing 5° temperature rise for brine:

$$725 \div (5 \times 1 \times .725) = 200 \text{ lbs. brine pumped per minute}$$

$$8.33 \times 1.14 = 9.5 \text{ lbs. (weight of 1 gallon of brine)}$$

$$200 \div 9.5 = 21 \text{ g.p.m. circulation required}$$

Twenty gallons per minute is also required in order to get rated capacity from diffuser.

SELECTION OF METHYL CHLORIDE CONDENSING UNIT

Capacity at 285 r.p.m. = 12,800 B.t.u. per hour at 25° suction temperature.

EVAPORATING SURFACE

Use ¾-inch copper tubing in brine tank. Heat transfer coefficient 2.75 per hour per lineal foot per degree temperature difference for still brine. Assume 8° temperature difference—

$$12,800 \div (8 \times 2.75) = 582 \text{ lineal feet of } \frac{3}{4}\text{-inch tubing.}$$

Use three coils with approximately 194 lineal feet per coil.

Use three equalized thermostatic expansion valves.

AUTOMATIC CONTROL

Use submerged type thermostat in brine tank to start and stop compressor on brine temperature. Use 2 or 3° temperature range.

Use room thermostat to operate brine circulating pump on room temperature with hand switch for continuous operation when milk is cooled.

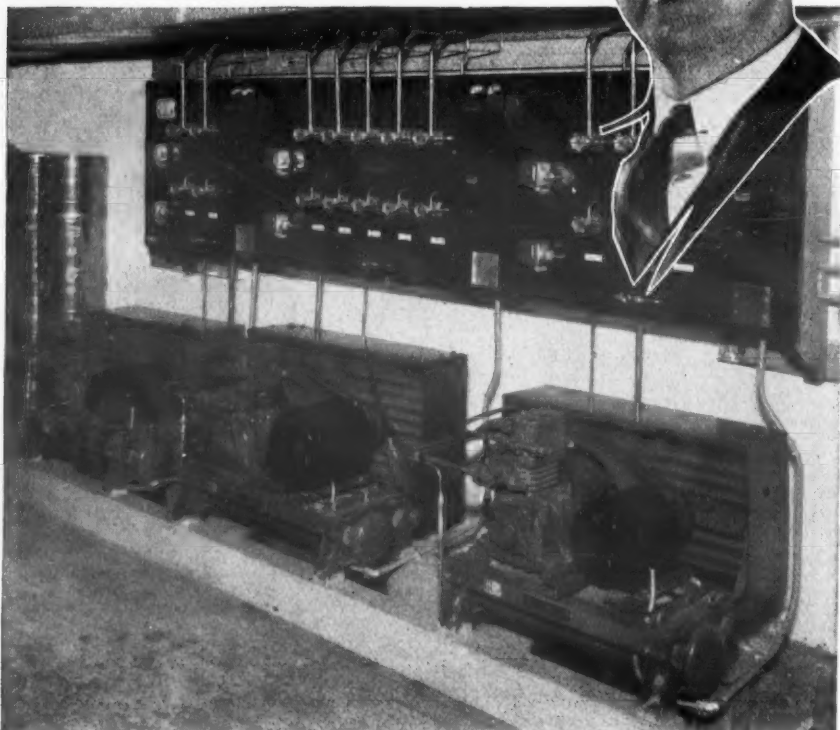
Use fan economizer thermostat to start and stop diffuser motor on temperature of diffuser coils.

"A JOB TO BE PROUD OF"

Says CHARLES C. E. HARRIS

LEGASSE AND HARRIS REFRIG. CORP.

CAMBRIDGE, MASS.



This installation by Legasse and Harris at Brigham's latest store, 174 Tremont Street, Boston, Massachusetts, handles three soda fountains, two salad sections and a large reach-in refrigerator.

"The compressors in this job are one 1 H. P. and two ¾ H. P. Kelvinators. Approximately 600 ft. of hard-drawn copper was used, with almost all sweat fittings and hard solder. The system was dried with Drierite, and charged with V-Meth-L." He adds, "A large portion of our business is in parts and refrigerants to the trade, and a marked preference is shown for V-Meth-L and Esotoo."

A QUALITY JOB DESERVES A QUALITY REFRIGERANT

V-METH-L and EXTRA DRY ESOTOO

VIRGINIA SMELTING CO., WEST NORFOLK, VIRGINIA

What Goes On In the New Offices Of Carrier Corp. In Syracuse



(1) Vice Presidents James Bentley (left) and Herb Laube, who direct Carrier's potent export organization, map out a new drive for business in far-away lands. (2) William Shaw, publicity director of the Air Conditioning Manufacturers Association, drops into the Carrier offices for a chat. (4) Sales Manager Boulware reads record of current air-conditioning installations in the News.

Sweating Of Windows Can Be Reduced By Closer Control & Better Insulation

BY F. O. JORDAN

Editor's Note: This is another article in a series by Mr. Jordan on answers to specific problems in air-conditioning engineering.

QUESTION: I installed winter air conditioning in my home last fall. Everything seems to be satisfactory except for "sweating" of the windows, and of part of the living room ceiling. The part of the ceiling which drips condensation is a strip about 6 feet wide along the outside wall where the second floor is set back so that there is nothing but the roof with a shallow air space over this part of the ceiling.

The Only Possible Cause

ANSWER: Only one condition can cause condensation to occur upon a surface, and that is when the temperature of the surface is below the dewpoint temperature of the air.

By definition, the dewpoint temperature of the air is the point or the temperature at which "dew" or condensation begins to form.

If we place a glass of warm water in the room under ordinary conditions, the outside of the glass remains dry, because it is warmer than the dewpoint temperature of the air in the room. But if we place a few cubes of ice in the glass and begin to stir them round and round so that the temperature of the water in the glass begins to fall, a point will be reached where the outside of the glass will suddenly cloud over with moisture precipitated from the air. The temperature of the surface of the glass is the dewpoint temperature of the air.

If the temperature of the glass is further reduced, the rate of "sweating" upon the surface of the glass becomes more rapid. A rise in dewpoint temperature will have the same effect. A rise in dewpoint temperature is the result of a rise in humidity of the air in the room, because dewpoint temperature is the measure of moisture content of the air.

The Remedy

If we lower the dewpoint temperature of the room until it is below the temperature of the surface of the glass of water by carrying a lower humidity in the room, the sweating

on the glass with cease. Or the sweating can be stopped by raising the temperature of the glass until it is higher than the room dewpoint.

Likewise, sweating of your windows, of your strip of cold ceiling, or of any other surface in the room can be stopped either by lowering the humidity of the room air, or by raising the temperature of the sweating surfaces.

Unfortunately, if you lower your humidity enough to prevent sweating in cold weather, you will lose much of the benefit of your winter air conditioning which would result from its ability to maintain beneficial humidities. Therefore, you will be wise to raise the temperatures of the offending surfaces.

Raising the surface temperature of the ceiling should present no difficulty, as this can be done merely by insulating it properly. Filling the air space between the ceiling and roof with 6 or 8 inches of good insulation should be ample.

The windows present somewhat more of a problem for nobody has yet discovered a way of insulating windows and at the same time leave much of a window. But you might install double or triple glass windows, or at any rate, install storm windows.

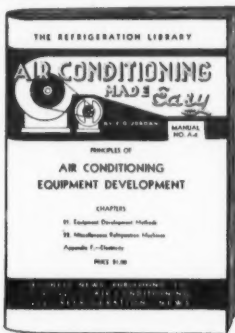
If you do this, you should be able to carry 35% relative humidity in your house without objectionable sweating even of the windows. Of course, 35% is not ideal, but it generally is a pretty good compromise.

Perhaps you should check your humidity now, as you may be carrying it away up above 50%. If you are, it would help materially in reducing the sweating merely by adjusting your humidifier to limit the humidity to around 35%.

New Book Gives Data On Conditioner Design

"Air Conditioning Equipment Development" is the fourth of the "Air Conditioning Made Easy" manuals on air-conditioning engineering theory and practice written by F. O. Jordan, a graduate engineer who has had experience with a number of air-conditioner manufacturers, is editorial consultant for AIR CONDITIONING & REFRIGERATION NEWS, and is a member of the staff of Refrigeration and Air Conditioning Institute of Chicago.

Mr. Jordan's latest manual should be invaluable to every engineer who



may be doing, or who may ever possibly do, design and testing work on air-conditioning equipment.

First part of the book is devoted to reasons for obtaining test data on air-conditioning equipment in development, methods for obtaining such data, and the correlating of such data for convenient use.

The instructions given cover procedure for getting condensing unit performance data, water cooler data, coil data, and complete air-conditioning data.

Various test setups are described and illustrated, and this section of the book is replete with charts and tables showing how the data can be correlated and plotted. Use of wind-

tunnel tests is described in some detail.

Windup of this section is devoted to methods for determining capacities.

Second section of Manual A-4 is devoted to the subject of "Miscellaneous Refrigeration Machines," those refrigeration systems other than the conventional reciprocating types, including steam jet refrigeration, centrifugal water vapor compressors, non-aqueous refrigerant centrifugal compressors, and closed absorption systems.

It is explained where such types of systems are best employed, and the operating cycle of each is described in considerable detail. Data is given on operating factors, and the section has a number of illustrations showing details of the systems.

Appendix to Manual A-4 is on the subject of "Electricity," and consists of a review of the principles of electricity and definitions of the terms used in connection with electricity, written expressly for the purposes of the air-conditioning engineer. While many readers will no doubt be familiar with the information contained in the appendix, they are quite likely to appreciate the articulate and concise way in which the appendix will allow them to "brush up" on the subject of electricity.

Wagner Makes Assemblies For Evaporative Coolers

ST. LOUIS—Wagner Electric Corp. has announced a new line of motor and fan blade assemblies designed for use in evaporative coolers of the window-box type.

Motor is completely enclosed, rubber mounted, and of the capacitor type with ball thrust bearings and three-speed control. Fan blades are of the overlapping type, and are of heavy-duty construction.

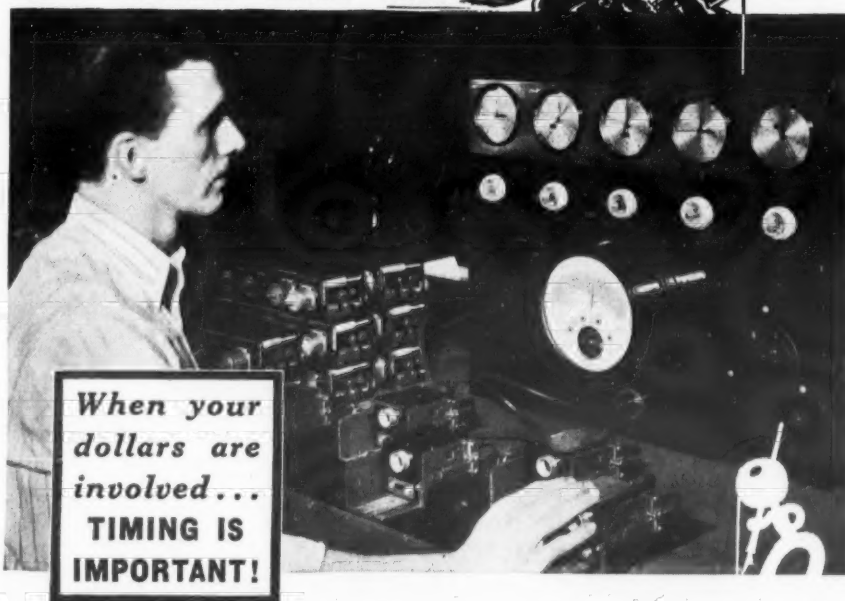
Evaporative cooling fan assemblies are available in a complete range of single-speed and three-speed fans, ranging from 25 to 60 cycles, and in sizes from 16-inch S1 to 19½-inch K3 types.

Coolers are for use in homes, offices, stores, and other medium-size buildings.

Westinghouse Dealer Named In Louisville

LOUISVILLE, Ky. — Chagnard Plumbing & Heating Co. has been appointed distributor for Westinghouse heating and air-conditioning equipment for Louisville and vicinity, reports M. J. Chagnard, president.

Derby Winners ARE TIMED LIKE THIS



Whether you place two dollars on a derby favorite, or invest thousands in engineering service, accurate timing determines your gain or loss. The element of human error must be eliminated.

Trip-out timing of electric controls incorporating the safety feature of heat-type circuit breakers, must fall within very close limits—bordered on one side by maximum safety—on the other by minimum service calls.

To assure absolute accuracy, every Penn control incorporating heat-type circuit breakers is factory adjusted and then

tested by the most advanced type electric timing devices, which measure time in tenths of a second. Nothing is left to guess-work.

Thus users of Penn controls get maximum safety... installers are assured of a minimum of service calls and service expense. You can guarantee performance... accurately estimate profits on Penn-controlled installations. Specify Penn controls on your next job. PENN ELECTRIC SWITCH CO., GOSHEN, INDIANA. Branches, Factory Representatives and Distributors in all principal cities.

PENN

PENN LEADERSHIP IN REFRIGERATION CONTROLS has been recognized for years. Your problems discussed without obligation. Write for catalog.

Anaconda Copper Refrigeration Tubes

Dependable!

THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices: Waterbury, Conn.

M&E CONDENSING UNITS

FEATURING
AUTOMATIC BELT TIGHTENER



A-9500-WF Air Conditioning Unit for homes, restaurants, small shops, etc.

Another important M & E feature. Regulates belt tension, automatically... prevents slippage, wear and burning of belt. Saves power. Reduces wear on bearings. Used on all models 5 H.P. and up. (Smaller models are equipped with easily adjustable motor base rails.)

In M & E Compressors you will find highest quality materials and fine

workmanship, combined with advanced engineering that has been proved in the field... you will find quality Condensing Units in types and sizes to meet your exact needs. Write for new catalog. Ask for recommendations.

MERCHANT & EVANS CO.
Phila., Pa., U.S.A. Plant at Lancaster, Pa.

M&E CONDENSING UNITS
For the Plus Values in Electric Refrigeration

Service

Temprite Engineer Offers Further Data On Maintaining Proper Pressure On Keg Beer

Temprite Products Corp.
47 Piquette Ave., Detroit

M. A. McDougall
Pure Carbonic, Inc.
60 E. 42nd St.
New York, N. Y.

The writer has been absent from the office for the past few weeks and upon returning this morning, found your communication of March 15 relative to our series of articles published in the AIR CONDITIONING & REFRIGERATION NEWS on the subject of beer and beer dispensing applications.

K. M. Newcum of the NEWS was correct when stating that he merely reported a statement and discussion that happened in our school.

We are sending you a copy of a recently published bulletin on pressures and their various applications to beer dispensing systems. We believe that this bulletin correctly states our views and position on the use of air and CO₂ gas for use in proper dispensing of beer.

The Temprite system of cooling and dispensing beer does not come under the classification of a high-pressure system, but is usually referred to as operating on a balanced pressure. This means that the pressure applied to a complete dispensing system is usually not higher than two or three pounds over that required by the pressure-temperature relationship of the beer in the system.

PROBLEM: TO DRAW GOOD BEER

This does not mean only the temperature of the beer in the keg, but also the temperature of the beer in the connecting line between the keg and the dispenser itself. Please note the following quotation shown on page 2 of the enclosed bulletin.

"If it is desired to draw beer in a solid liquid state, without any trace of free CO₂ gas to cause foam, it is necessary to apply a sufficient amount of pressure to keep the CO₂ gas in solution with the liquid beer.

"It has been explained that this pressure rises in proportion to the increase in the beer temperature, and it therefore follows that the temperature of the beer must be known before the proper pressure can be applied to the entire system. (When referring to rise in beer temperature,

it means the beer in the keg and also the beer in the connecting beer line.)

"If the pressure applied to the entire system was based on the temperature of the beer in the barrel (55°) and was, therefore, only 19 lbs., beer in the connecting beer line at 65° which requires a pressure of 26 lbs. to keep the gas in solution would not be under perfect control and would permit a certain release of gas from the liquid solution and cause foam at this particular point.

"Remember that at any time if the pressure applied to any part of the beer system is lower than the pressure required to keep the gas in solution, the result will be gas escape and resulting foam over which there is no control. If beer is allowed to foam in the line or in the keg or in any part of the system, it will also foam when being drawn from the faucet; therefore, the maximum temperature of the beer in any part of the system must be known before the pressure is applied."

OVER-CARBONATION

We note in your letter that you are well aware of the problem of over-carbonation when CO₂ gas is used on a system. If the conditions as outlined in this particular paragraph on page 2 of our bulletin were in existence and CO₂ gas was used for the dispensing of beer, the natural results would be an over-carbonated keg of beer after the system had been in operation for approximately 24 hours.

As you will note, the beer in the connecting line at a temperature of 65° requiring 26 lbs. of CO₂ gas pressure, would result in over-carbonation of the beer in the keg, which is 55° and only requiring a pressure of 19 lbs. This condition exists in a large number of beer dispensing taverns and the troubles that have resulted from this condition necessitate our advocating the use of air pumps as a pressure medium on systems of this kind.

Our views are further expressed on the problem of over-carbonation by use of CO₂ gas in the following paragraph shown on pages 2 and 3 of our pressure bulletin. You will note at the end of this second indicated section that we do not prohibit the use

of CO₂ gas in all cases, but rather indicate and suggest to our various distributors the type of installation under which either one of the two pressure mediums will serve its purpose best.

"The question of what to use as a pressure medium is important and sometimes confusing to the distributor and dispenser. The general use of CO₂ gas as a pressure medium in forcing the beer through a system is not recommended in many cases and the following facts should be remembered.

MAY RISE IN LINE

"If a condition is encountered where the beer in the keg is at a fairly low temperature and yet the conducting line containing beer between the keg and the final cooler is at a higher temperature and thus requiring a higher pressure to obtain the proper control, the use of CO₂ gas in the higher pressure scale will cause an excess of this gas to go into solution owing to the low temperature of the beer keg and will eventually cause foam trouble.

"As the beer was originally carbonated at a fairly low temperature and low pressure and as the beer has a natural tendency to absorb this CO₂ gas, the application of higher CO₂ gas pressure on the cold beer will continue this carbonation process and eventually cause the beer to absorb more gas than was originally intended. If the beer absorbs more CO₂ gas than necessary, the results will be as follows:

"First, as the beer absorbs more CO₂ gas and the carbonation value increases, more pressure must be applied to the system to keep the excess gas in solution with the liquid beer. As this extra pressure is applied, it raises the CO₂ gas pressure higher than is required for the temperature of the beer in the keg because sufficient pressure has to be applied to maintain the gas in solution in the beer conducting line which is considerably warmer than the beer in the keg.

"As a result, the excess CO₂ gas applied to the beer in the keg is absorbed and the carbonation value is again increased, thereby requiring a higher pressure to maintain the solution, and as the higher pressure is applied, the same corresponding increase is encountered thus continuing one unending circle.

CAUSES EXCESS FOAM

"The second result of an excess of CO₂ gas in the beer is that even though a continuous change of pressure is taken care of so that the beer continues to flow from the faucet in a clear, solid, amber colored stream, the beer, after entering the consumer's glass, will generate a great deal more foam than is permissible.

"The reason is that the normal amount of gas ordinarily released by the reduction of pressure on the beer when entering the glass has been increased in proportion to the higher CO₂ gas pressure applied and, therefore, releases a larger percentage of gas (foam) into the beer glass.

"This condition generally causes so much trouble that the use of CO₂ gas is limited to installations that do not require very high pressures; that is, pressures that are much in excess of the pressure-temperature relationship of the normal carbonated beer as shown in a CO₂ pressure-temperature table.

USE CO₂ GAS IN CERTAIN CASES

"1. Where beer kegs are located on the same floor level as the cooling equipment and the beer lines are very short or are so located that they cannot warm up.

"2. Where the keg pressure is 15 lbs. or less.

"3. Where kegs are not precooled and dispenser does not serve much beer and the keg pressure is 25 lbs. or less.

USE AIR PRESSURE HERE

"In all other cases the use of air as the medium on beer installations is rapidly becoming accepted practice due to the following advantages:

"Air will not go into solution with beer at any temperature or pressure and, therefore, permits sufficient pressure to be applied to the system to keep all the CO₂ gas in solution and at the same time eliminates the possibility of the carbonation value being increased and causing an excess of foam in the beer."

JAMES J. GOODWIN,
Sales Engineer.

Setup For Testing Flapper Valve

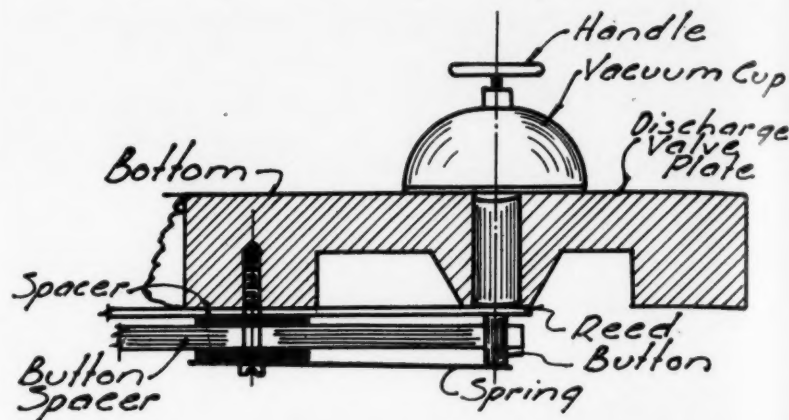


Fig. 1—Method of testing flapper valves with an inexpensive vacuum cup, the procedure being described in the article below.

How To Test Flapper Valve Operation With Test Equipment Costing 15 Cents

Hasco, Inc.
714 West Market St.
Greensboro, S. C.

Service Editor:

I have read most of your articles in AIR CONDITIONING & REFRIGERATION NEWS, and on several occasions have threatened to write you advising that I do not exactly agree with you on several statements that you have made but was afraid that you would take the wrong conception to my letters and therefore let it ride and failed to write.

Several years ago, we started experimenting with Frigidaire flapper and float valves to see if we could work out a plan to repair these two items, very cheaply and at the same time improve them.

I believe we have this well under control at this writing. We repaired approximately 10,000 Frigidaire flapper valves in 1937. They came from practically every state in the Union. This week we received shipments from Connecticut, Massachusetts, Michigan, Wisconsin, Florida, Georgia, Texas, Alabama, and several other states.

In the "renewing," as we call it, of flapper valves, it has been necessary that we make a heavy investment in machinery, particularly surface grinders, automatic tapping equipment, and plating in order that we may turn out, from an old rusty, dirty flapper valve, one that cannot be told from new.

In the experimental work of "renewing" flapper valves, one of our chief problems was testing after the valves had been repaired. After trying many complicated devices, the ideas of Frigidaire and other con-

cerns, we came upon the slickest, simplest thing yet tried.

It has proven to be very reliable and the entire equipment can be purchased for 15 cents. I am enclosing herewith a catalog sketch (see Fig. 1) of our method of testing out the various makes of flapper valves which consists of nothing more than a vacuum cup coat hanger that can be purchased at any automobile supply house for 15 cents.

All that is necessary to test out the flapper valve is to turn it upside down, place the vacuum cup over the port-hole and push down on it. If the flapper valve is holding, it will require considerable effort to pull it off . . . more than it did to push it down. In the event the valve is leaking, the vacuum cup will readily fill up with air and slide off easily.

One item that we are stressing considerably is that the Frigidaire compressor can be changed to methyl chloride or Freon very easily and economically.

This is made possible because of our new cylinder head where the liquid refrigerant or suction gas passes through the cylinder head and flapper valve. This as you know, reduces the head pressure and power consumption.

W. H. PARKER

United Supply Catalog Out

OMAHA, Neb.—United Supply Co., refrigeration, oil burner, and air-conditioning jobber here, has just issued catalog No. 138, listing the complete line of supplies and equipment which it has available for distribution to dealers and service men.



NO MORE "HIT-AND-MISS" COOLING!

UNTIL NOW, selecting a unit cooler had to be somewhat of a "hit-and-miss" job. What else could you do but select the nearest size you could locate among the 5 or 6 types or sizes available? And then specify one a size larger "just to be sure!"

TODAY Rempe offers not 5 or 6, or even 50 or 60, but TWO HUNDRED AND SIXTEEN DIFFERENT sizes and types! There's a Rempe Unit to fit any temperature from 70° down to 11° (and fit any refrigerant—Methyl Chloride, Freon, Sulphur Dioxide, Ammonia, Brine or Water; for any size of installation; for any speed of air flow.

If you're interested in precision-selection, get your name on our list now for the most complete catalog of Unit Coolers ever compiled (soon ready.)

THERE ARE 216 DIFFERENT REMPE UNITS

FOR LOW-TEMPERATURE COOLING
FOR COMFORT COOLING

REMPE CO., 340 N. SACRAMENTO BLVD., CHICAGO

HERE'S WHAT WE MEAN when we say "You Can Install SPORLAN VALVES with Confidence"

An agent in London, England writes: "We have sold over 900 Sporlan Valves during the past year-and-a-half. We have not yet had a valve returned to us for service, either under guarantee or otherwise, and we have only sold one replacement part, that is, a power element to replace one which suffered accidental mechanical damage."

A service engineer in Ft. Wayne said: "I install and service the refrigeration equipment for one of the national chains of grocery stores. I have installed over 200 Sporlan Valves and have never even had to remove a seal cap from a single valve."

An ice machine dealer in Toledo writes: "To date I have put out over 500 Sporlan Valves in the last two and one-half years. The one and only complaint I have received is from one of my customers."

A commercial refrigeration dealer in Oakland, Calif. told us: "We now have in service 450 Sporlan Valves and have yet to have our first service call on a valve."

YOU TOO CAN ELIMINATE EXPENSIVE SERVICE CALLS by STANDARDIZING on SPORLAN VALVES

THERMOSTATIC EXPANSION VALVES SPOEHRER-LANGE COMPANY 3725 COMMONWEALTH AVENUE • ST. LOUIS, MISSOURI

Air Conditioning

Successful Experiment In Filter Cleaning Leads To Chain Of Cleaning Plants

OMAHA, Neb.—“Cleaning plants” for throwaway filters used in air-conditioning systems have been established in a number of the major cities throughout the country by licensees of the Whalen Filter Cleaning Machine Co. of this city.

The Whalen company manufactures a machine used in the cleaning process, and has patents on the chemical solvent which does the cleaning.

Firms which are licensed by the Whalen company set up the equipment in a “plant” in the territory in which they operate and offer the filter cleaning service to all users of air-conditioning systems which employ “throwaway” filters (filters which must be replaced after they have been filled up with dirt and other substances, since failure to replace or clean them would stop the airflow through the system).

SAVES USER 25 TO 50%

According to H. L. Ogg of Air Conditioning Filter Service, Inc., a firm which holds the licensee privileges in a number of cities, the “cleaning” service will save the air-conditioning user from 25 to 50% on his filter maintenance cost.

The number of times that a filter can be cleaned and put back into operation depends on a number of factors, including the manner in which it is handled at the user's establishment, Mr. Ogg declared. He claims to know of one set of filters which had been cleaned 24 times.

First step in the “cleaning” process at the local plants is the fitting of a metal frame on the filter, over the frame supplied by the manufacturer, which is usually of cardboard or a like substance. This is done to prevent damage to the frame.

If the filters are being cleaned on a contract basis (that is, an agreement whereby the filters are picked up and cleaned at regular intervals)

a number is stamped on the metal frame, in this way providing a permanent record and identification of the user's filters.

Various types of filters require different treatment, Mr. Ogg pointed out. In general, however, the following is the procedure used:

The filters are washed in the special compound, by means of the equipment shown in Fig. 1. They are then put in the drying tunnel and thoroughly dried out.

GLASS FILTERS COATED

At this stage the filters in which glass wool is used are given a coating of a substance which imparts a golden tint to the glass wool and which, according to claims of the Whalen company, keeps it from disintegrating through long usage and frequent cleanings. It is also said to keep small particles of glass out of the air stream. This step is not carried out with the steel wool filters.

Final step is the coating of the fibers of the filter with an oil or viscous substance, on which the dirt, dust, and animal life is impinged.

Mr. Ogg pointed out that the Air Conditioning Filter Service, Inc., is claiming an advantage in this respect, for if the substitute filters are left in for a while, the oil coating is not put on until just before the filters are re-installed, therefore the substance is fresh and claimed to be more effective.

According to Mr. Ogg, the substance used to re-coat the filters has a high flash point and meets Underwriters' requirements.

USERS HAVE TWO SETS

When a user decides to contract for the user service, he is told to buy another set of filters at the time his existing ones get dirty, but not to throw the dirty filters away. In this way, the two sets of filters necessary to give an uninterrupted

cleaning function in the air-conditioning system are provided, until one of the filters reaches a point where it is no longer fit for use.

Besides the saving in direct cost, the arguments are advanced by the cleaning service agents that the savings realized will make possible more frequent “renewing” of the air-cleaning function; that filters will not be permitted to clog up and cause blower speeds to be advanced, with resulting increases in power costs; and that proper air circulation will be provided at all times, thereby eliminating a criticism said to be leveled at air conditioning by medical critics.

The story behind the formation of the Whalen Filter Cleaning Co. in 1937 is one which reflects the belief that there are still opportunities for those who recognize an opportunity and apply themselves to take advantage of it.

‘A CHEAPER WAY’

James Whalen was an engineer at the air-conditioned Omaha Athletic club. The manager of the club began to complain about the expense of continuously scrapping filters and replacing them.

“There ought to be a cheaper way,” he growled.

The manager's attitude set Whalen to thinking and he began to experiment with various chemical compounds in a laboratory which he maintained in his quarters in the club's basement.

Since filters are so made that the

Washing Filters In Special Compound



Fig. 1—One of the first steps in cleaning throwaway filters in the Whalen plants is the washing of them in a special compound.

dirty and other foreign material in the air stream will adhere tenaciously to the fibers which constitute the mesh, Whalen found it pretty difficult to hit upon a compound that would do a good cleaning job.

However, he finally arrived at a satisfactory solution, and then developed the equipment by which his compound could be used to clean commercial filters. And that's how a new business was born.

Five New Chicago Houses To Have Air Conditioning

CHICAGO—Complete year-around air conditioning will be featured in a group of five new houses to be built here beginning April 15, by a south side builder.

The houses also will be wired and outlets provided for electric ranges.

THE BUYER'S GUIDE

LEADERSHIP

PELCO Electric
BEVERAGE & BEVERAGE-FOOD COOLERS

The world's largest builder of “floating ice” beverage and beverage-food coolers! And, no wonder! PELCO chills from room temperature to desired degree in about 30 minutes—makes its own floating ice automatically as needed. It's an EXTRA value cooler—lower refrigerator compartment makes PELCO doubly useful... extra quality... extra performance... extra beauty... extra years of service. Super-powered. CASH IN on PELCO—GET ALL the FACTS. Address Desk A-48

Won by MERIT

MODEL 200

MODEL 240

Refrigeration Division
PORTABLE ELEVATOR MFG. CO., Bloomington, Illinois
In Canada UNIVERSAL COOLER CO. OF CANADA, LTD. BRANTFORD, ONT.

MAKES its own Floating Ice in upper Compartment

Where Air-Conditioning Systems Were Installed In Beaumont, Texas In 1937

(Compiled by Gulf States Utilities Co.)

Name and City	Make	Tonnage	Hp.
Bank			
Merchants National Bank, Port Arthur....	Frigidaire	15	18½
Hotels			
Central Hotel, Port Arthur.....	Air Temperature	10	13½
Crosby Hotel, Beaumont.....	Carrier	80	98
Residences			
Mr. Craig, Port Arthur.....	Frigidaire	2	2½
Restaurants, Night Clubs, etc.			
Texas Bar (Grove Night Club, Louisiana)...	Frigidaire	20	25
The Vogue, Beaumont.....	Air Temperature	6	8
Stores			
Gem Jewelry Store, Beaumont.....	General Electric	3	3½
Gem Jewelry Store, Port Arthur.....	General Electric	3	3½
Lerner Shop, Beaumont.....	Westinghouse	15	18½
McLellan's Store, Port Arthur.....	(Not Known)	40	50
Thames Calder Ave. Drug Store, Beaumont	Carrier	15	18
Thames No. 1 Drug Store, Beaumont.....	Baker	15	18½
Walgreen Drug Store, Beaumont.....	Carrier	30	38½
Worth's, Inc., Port Arthur.....	Carrier	6	9½
Miscellaneous			
Feaner and Beane, Beaumont.....	Frigidaire	10	13½
R. I. Ferguson, Port Arthur.....	Frigidaire	15	20
Pennsylvania Shipyards, Beaumont.....	Frigidaire	3	4

AIR CONDITIONING • REFRIGERATION •

FITTINGS

We manufacture an exceptionally complete line of Valves, Fittings and Accessories for Mechanical Refrigeration and Air Conditioning.

Send for our new Catalog and Price List 2004—The most comprehensive catalog ever issued to the trade.

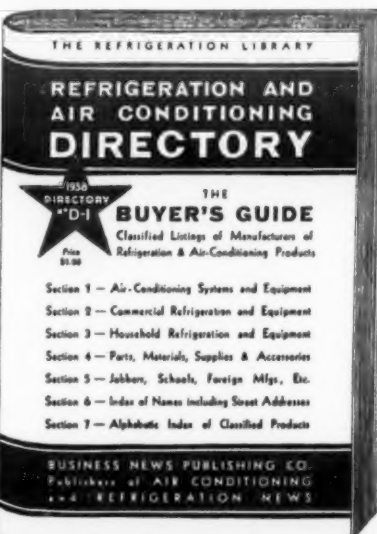
MUELLER BRASS CO.
PORT HURON, MICHIGAN

TOSS OUT THE OLD—SLIP IN THE NEW!

Ranco Household Refrigerator Controls
More EXACT Replacements than any other line

Send for Bulletin.
For Complete Export Information, Write

Ranco INC.,
Columbus, Ohio, USA



1938 Refrigeration & Air Conditioning Directory

A complete buying guide giving source-of-supply information on all refrigeration and air-conditioning equipment, materials, parts, tools, and supplies. Names of all manufacturers selling in the national market are listed by product classifications with a separate quick-reference index of manufacturers' names and street addresses. Also includes lists of refrigeration jobbers, schools, and foreign manufacturers. Order your copy now. You will find this book a money and time saver.

252 PAGES \$1.00 per COPY

BUSINESS NEWS PUBLISHING CO.
5229 CASS AVE. DETROIT, MICH.

Household Refrigerator Sales Drop Sharply From 1937; Exports Make Best Showing

(Concluded from Page 1, Column 5)
units in March of this year, as against 327,922 units by companies reporting for the corresponding month of 1937. Export sales for the month held up comparatively well compared to a year ago, however, the totals (for countries other than Canada) being 15,216 units this March against 20,617 last March.

Units of between 5 and 8-cu. ft. capacity continued to be leading choices in shipments.

Reporting March sales to Nema headquarters were the following 17 companies: Apex Electrical Mfg. Co., Crosley Radio Corp., Edison General

Electric Appliance Co., Inc., Fairbanks, Morse & Co., Frigidaire Corp., General Electric Co., Gibson Electric Refrigerator Co., Johnson Motors Co., Kelvinator and Leonard divisions of Nash-Kelvinator Corp., Norge division of Borg-Warner Corp., Sparks-Withington Co., Stewart-Warner Corp., Sunbeam Electric Mfg. Co., Uniflow Mfg. Co., Universal Cooler Corp., and Westinghouse Electric & Mfg. Co.

Merchant & Evans Co. did not report for the month. Sales reported include units manufactured for Montgomery Ward & Co., Potter Refrigeration Corp., and Sears, Roebuck & Co.

THE BUYER'S GUIDE



THE NEW ECON-O-COOLER

There are more than 3500 sales representatives who profitably sell the Koch line. Yet many attractive territories are still open to aggressive sales organizations. Write today for full particulars and prices.

KOCH REFRIGERATORS
NORTH KANSAS CITY, MO.

*Tested
Approved*

A spacious new walk-in cooler that operates at a lower cost than was ever before thought possible. Every day a Koch Econ-O-Cooler will cut down overhead and expenses. It has greater capacity, longer life, and more efficient refrigeration.

The Econ-O-Cooler is only one of a number of standard Koch products. There are 108 standard models in the vast Koch line, including display cases, coolers, vegetable cases, and refrigerators for meats, bottled goods, flowers, bakery items, dairy products, etc. There is a Koch product to fill every need.



NEW Percival STREAMLINER!

DISTRIBUTORS WANTED!

Write for details of Profit-making franchise. Complete PERCIVAL line meets every requirement of the modern food store.

Modern styling . . . Beautiful design . . . Outstanding construction . . . Economical operation! TOMORROW'S case, presented TODAY! Get the jump on other distributors by selling this modern marvel of electrical refrigeration. Its NEW style and NEW features give you exclusive selling advantages! NEW PERCIVAL FINANCE PLAN HELPS YOU SELL.

C. L. PERCIVAL COMPANY
DES MOINES IOWA
52 YEARS OF SERVICE 1886-1938



TYLER WELDED STEEL REFRIGERATORS

A COMPLETE NEW LINE FOR 1938

Fastest selling line ever offered to the trade. Completely covers the field. Pace-setting values in Top Display and Double Duty Cases—6, 8, 10 and 12 foot lengths... Two shelf cases... Delicatessen cases... Reach-In Boxes... Walk-In Coolers. All streamlined with striking modern beauty and engineered with latest improvements.

With this new Tyler line of commercial refrigerators you can step out ahead of all competition. Write today for free literature and attractive dealer proposition.

TYLER FIXTURE CORP. Dept. R, NILES, MICH.
NEW YORK OFFICE, 901 W. 25th St. CHICAGO OFFICE, 1083 W. Ogden Ave.

To Sell Farmer, Stress Profits Electrical Equipment Will Bring, Karn Explains

CHICAGO—Most effective way to sell more electrical equipment to the rural customer is to show him that it costs him less to use electricity than to be without it.

This frequently overlooked sales point was stressed by D. E. Karn, vice president and general manager of Consumers Power Co., in advocating an "Electricity for Farm Profit" theme for power companies which wish to build up farm use of electric energy on a sound foundation.

To sell the farm customer, and keep him sold, we must show him that he can help himself most by using twice as much electricity as he has in the past," Mr. Karn said in suggesting a campaign for utilities based on "profit" motives for the rural user.

SELL 'PROFIT' ANGLE

"This is strictly a selling job," he went on. "The farmer must be shown that electricity is by far his best and cheapest servant. He must be sold electrical appliances and equipment, not for the profit they will bring to the appliance or equipment dealer or the utility, but rather for what they will do to make his life more pleasant, his work more profitable.

"And it requires a different type of selling approach. The farmer can't be high-pressured into buying appliances or farm equipment. To sell him, you must show him the dollars-and-cents profit possible.

"Extravagant and unfounded claims make little impression on the rural buyer; he is impressed only by actual facts."

Average use of electricity by 41,000 farm customers on Consumers Power Co. lines last year was 1,079 kwh. each, Mr. Karn said; average use for all the company's customers was 1,004 kwh. during the year. Still the farmer is not using nearly the amount of electricity he might profitably put to work for him.

FARMER'S POTENTIAL

"We believe the average farm could use profitably between 1,800 and 2,000 kwh. per year," Mr. Karn stated.

All selling, in its early stages, is primarily an educational process, he pointed out in urging a continuation and amplification of the rural de-

velopment efforts of power companies.

Consumers Power Co. sells household electrical appliances, but does not merchandise electrical farm equipment, Mr. Karn said. The utility's job in the first field is essentially one of selling; in the second, all the emphasis is on education.

In merchandising electrical appliances, he went on, the company makes no distinction whatever between urban and rural customers. All services of the utility are available to all alike, and the same sales effort is expended on both.

The company has a trailer coach, which is constantly on tour of town and farm homes. Particularly in the rural districts, the coach has been a sales aid, Mr. Karn said, because it permits demonstration of appliances to the farm wife, who otherwise is often too busy to take the time off to come into town and visit the dealer's or the utility's showrooms.

FOSTER DEALER SALES

Although the utility merchandises appliances, it has fostered a live-wire dealer organization throughout its territory, Mr. Karn said, and tries at all times to maintain good dealer relations. Dealers are considered in every advertising and promotional campaign launched by the utility, he declared.

"The important thing, for the utility, is to get the appliance in the home and onto the lines," he pointed out. "It's a matter of small importance as to who sells it."

Consumers Power appliance campaigns, in general, are well worked out, he went on. While they may not be aimed at the farm wife specifically, nevertheless they touch her also, since she has the same wants and desires as her sisters.

Selling farm appliances, however, is a much different matter. No great amount of unified efforts has been put forth in that direction.

Consumers Power Co.'s farm service department, established in 1936, comprises 14 rural service engineers whose job is to go out to the farm and help the farmer with his problems: milk cooling, soil heating, poultry-house wiring, apple storage, etc.

Since the utility sells no farm equipment, the work of these rural

17 Nema Manufacturers Sell 183,059 Household Units In March

The following 17 member companies of the Refrigeration Division of the National Electrical Manufacturers Association (Nema) reported household refrigerator sales for March, 1938: Apex Electrical Mfg. Co., Crosley Radio Corp., Edison General Electric Appliance Co., Inc., Fairbanks, Morse & Co., Frigidaire Corp., General Electric Co., Gibson Electric Refrigerator Co., Johnson Motors Co., Kelvinator Div. Nash-Kelvinator Corp., Leonard Div. Nash-Kelvinator Corp., Norge

Div. Borg-Warner Corp., Sparks-Withington Co., Stewart-Warner Corp., Sunbeam Electric Mfg. Co., Uniflow Mfg. Co., Universal Cooler Corp., and Westinghouse Electric & Mfg. Co. Merchant & Evans Co. did not report.

The sales of the reporting companies do, however, include units manufactured for the following concerns: Montgomery Ward & Co., Potter Refrigeration Corp., and Sears, Roebuck & Co.

	SALES FOR MARCH, 1938			
	Domestic	Canadian	Other Foreign	Total World
Lacquer (Ext.) Cabinets Complete				
1. Chest	207	1	4	212
2. Less than 3 cu. ft.	1	402	23	426
3. 3 to 3.99 cu. ft.	2,717	111	2,035	4,863
4. 4 to 4.99 cu. ft.	17,988	1,688	4,777	24,453
5. 5 to 5.99 cu. ft.	36,996	1,627	1,719	40,342
6. 6 to 6.99 cu. ft.	65,042	804	959	66,805
7. 7 to 7.99 cu. ft.	13,062	168	320	13,550
8. 8 to 9.99 cu. ft.	5,765	40	162	5,967
9. 10 to 12.99 cu. ft.	98	...	...	98
10. 13 cu. ft. and up	...	1	...	1
11. Total Lacquer	141,876	4,842	9,999	156,717
Porcelain (Ext.) Cabinets Complete				
12. Up to 4.99 cu. ft.	166	15	45	226
13. 5 to 5.99 cu. ft.	3,622	165	235	4,022
14. 6 to 6.99 cu. ft.	9,410	40	184	9,634
15. 7 to 7.99 cu. ft.	2,944	8	134	3,086
16. 8 to 9.99 cu. ft.	1,844	8	131	1,983
17. 10 to 12.99 cu. ft.	242	1	8	251
18. 13 cu. ft. and up	338	3	36	377
19. Total Porcelain	18,566	240	773	19,579
20. Total—Lines 11 and 19	160,442	5,082	10,772	176,296
21. Separate Systems ¼ hp. or less	21**	481	2,911	3,371
22. Separate Household Evaporators	1,718	141	1,533	3,392
23. Total—Lines 20, 21, and 22	162,139	5,704	15,216	183,059
24. Condensing Units ¼ hp. or less	453	64	1,851	2,368
25. Cabinets—No Systems	33	...	26	59
Index Value* of Total Dollar Sales	90.1	281.0	123.1	93.6

*Based on weighted sales for 1934, 1935, and 1936.

**Includes sales and credits of more than one company.

service engineers is entirely promotional in nature. Their whole effort is to enable the farmer to get the greatest possible use from the electricity he must pay for, and to get him to see the advantages in actual profits from letting electricity do more of the farm work for him.

ELECTRICITY SCHOOL

One of the company's best promotional efforts has been its series of farm electricity schools, sponsored with the cooperation of Michigan State College, farm bureaus, and county agents. Two-day schools are the general rule, with cooking schools for women and farm equipment schools for men each afternoon, and educational movies for the whole family in the evenings.

All home and farm appliances shown during the schools are supplied by local electrical appliance and farm equipment dealers, and the selling is secondary to the educational work.

Close contact with all farm equipment and implement dealers is maintained by the utility, which also makes its showrooms in small towns available for farm equipment displays.

Through the utility, materials also are made available for use by high schools, county farm bureaus, county agents, etc., in conducting fall and winter farm educational meetings. The high school promotional work is of particular importance, Mr. Karn pointed out, since school children often do a major part of the work in selling their parents. Also, the farm children of today are the farm customers of tomorrow.

Adequate wiring demonstrations also are held on individual farms, with the rural service engineer working out a specific plan to fit the farm's requirements, and answering questions of neighbors who are invited to attend.

DEMONSTRATION FARMS

Several demonstration farms also have been set up throughout the utility's territory (there are now eight farms in four counties) in cooperation with county agents and electrical appliance and farm equipment dealers. Selection of the demonstration farm is made on a merit basis, with the farmer being furnished equipment and appliances at cost in return for allowing their use as "guinea pigs" on cost of operation, etc.

Meters are placed on all appliances, and these are read monthly by the rural service agent. In this way, an exact cost picture of each appliance is on record, in figures which cannot be disputed. This "actual figures" selling plan has proved most effective in breaking down rural sales resistance, Mr. Karn noted.

To further the use of electricity, the utility also gives each new rural customer a six-month subscription to "Electricity on the Farm" magazine, Mr. Karn said; in addition, there are frequent cooperative advertising drives in daily and weekly newspapers throughout the company's service area.

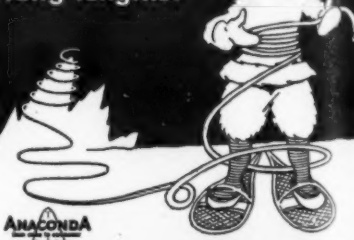
"Plain talk is what is needed to interest the farmer in electricity and electrical appliances," Mr. Karn concluded. "Tell the farmer the 'Electricity for Farm Profit' story—and show him proof—and you won't find him hard to sell."

For Information on Motors FOR ALL TYPES OF Air Conditioning and Refrigeration Equipment WRITE TO

Wagner Electric Corporation
SANTITUM AVENUE ST. LOUIS, MO.

Anaconda Copper Refrigeration Tubes

Unusually long lengths!



THE AMERICAN BRASS CO.
FRENCH SMALL TUBE BRANCH
General Offices, Waterbury, Conn.

Distributor-Dealer Doings

South Jersey Dealers Launch 'Refrigeration Week'

CAMDEN, N. J.—"South Jersey Refrigeration Week" was launched here April 21 by the Electrical League of South Jersey with eight pages of local newspaper advertising and publicity, special floor displays by dealers, and other promotion efforts.

Edgar F. Jobe, directing head of the activities of the various divisions of the league, has announced a league meeting May 17, at which promotional activities for the balance of the year will be outlined. I. Borstein, chairman of the appliance dealers' division and treasurer of the league, announced plans are progressing for various 1938 appliance industry promotions.

Camden dealers participating in the special advertising program for "South Jersey Refrigeration Week" included Ruttenberg Furniture Store, Sears, Roebuck & Co., Bornstein Electric Co., Hurley's, Heine's, Barrett Tire Co., Modern Sales, Di Mana's, John O'Rulicz, Whitehall, Morton Electric Co., Marian B. Middleton, A. A. Duckett, Inc., Modern Store, New House of Guttenberg, Antrim Hardware Co., and D. & M. Tire Co.

Dealers from other South Jersey communities taking part in the advertising were: Borstein, Atlantic City; Heine's, Paulsboro, Pennsboro; and Pitman; Credit Tire Store, Pitman; Denelsbeck Bros., Riverside; B. Goldy & Son, Mt. Holly; Leon King, Woodbury; Lotse Furniture, Paulsboro; Arthur Caccese, Franklinville; Toland, Pennsboro; Porreca, Millville; Jack's Auto Supply, Salem; Marian B. Middleton, Mt. Holly; A. C. Duckett, Inc., Haddonfield; Fred V. Buckner, Audubon; Electrical Center, Inc., Blackwood; Berlin Coal & Supply Co., Berlin; Hoots-Dough-ton, Inc., Pitman; John C. Stetson, Paulsboro; A. Carino & Sons, Williamstown; Sulton & Sowers, Woodbury; Middleton Radio, Marlton; W. S. Cundle, Burlington; and J. S. Collins, Moorestown.

Richards & Conover Host At Opening Of Wichita Store

WICHITA, Kan.—Richards & Conover Hardware Co., Kelvinator distributor, celebrated the opening of its new Wichita store April 5 by acting as host to southwestern dealers. The store was moved from 152 N. Market to 800 E. First St.

Besides Wichita, the company carries on Kelvinator distributing activities from its headquarters store in Kansas City, Mo., and another store in Oklahoma City, Okla.

Among officers of the company here for the ceremonies were: S. H. Richards, Kansas City, vice president and general manager; Harold B. Falls, Kansas City, commercial department sales manager; Norman Wilson, Kansas City, personnel director; R. R. Lancaster, Kansas City, sales promotion manager; V. E. Taft, office manager; Bud Ray, commercial refrigeration department; Karl Donovan, sales manager at Wichita; and Ralph Saied, commercial department.

Atlanta Department Store Installs Promotion Kitchen

ATLANTA—A \$1,000 General Electric kitchen, up-to-the-minute in design and appearance, has been installed in the appliance department of Rich's, Inc., one of Atlanta's largest department stores.

According to R. B. Shelley, manager of Rich's appliance department, this kitchen will be used for cooking schools, kitchen appliance demonstrations of all sorts, and as "bait" for whatever floor traffic the department enjoys.

Detroit Curtis Dealer Moves

DETROIT—Republic Refrigerator Sales & Service Co., local distributor for Curtis commercial refrigeration equipment and dealer for General Electric household refrigerators, has moved from 4856 Cass Ave. to 5237 Grand River Ave.

Vining and Swartzbaugh Speakers On Atlanta Sales Training Series

ATLANTA—A double-barreled treat, featuring both C. E. Swartzbaugh, president, Swartzbaugh Mfg. Co., Toledo, and Vernon Ellsworth "Salesman Sam" Vining, director of department store sales, Westinghouse Electric & Mfg. Co., was offered last week to local appliance dealers and their salesmen by the Atlanta Electrical Association in conjunction with the dealer coordination department of Georgia Power Co. as the fifth in a series of nine scheduled programs dealing with various phases of electrical appliance merchandising.

Announced topic for the program was "Small Appliances," but neither Mr. Swartzbaugh nor Mr. Vining confined their remarks to this field.

DESCRIBES CAPITAL MEETING

After briefly pointing out that the small appliance business is not a small business, and that small appliances have continually paved the way for public acceptance of major appliances, Mr. Swartzbaugh launched into an extremely interesting and enlightening resume of the historic "Little Business Men's Conference" held in Washington early this year.

Having been one of the 1,000-odd "little business men" who attended this meeting, Mr. Swartzbaugh was well able to paint a vivid first-hand picture of what actually transpired.

He emphasized the fact that no press reports or editorial comments which he had seen had given an adequate or clear-cut insight into the actual activities of that conference. He added that he was sorry to say he did not recognize many of the items in the long list of resolutions which, after lengthy consultations between a rather mysteriously appointed "committee" of little business men and officials of the Department of Commerce, was presented to the press as the summary of general conclusions reached by the conference.

Of the conference as a whole, he said, "Take all that you have heard and read about it, multiply this information by any figure you choose, and you still will have no idea of what actually occurred."

'SAM' PANICS 'EM

Showmanlike Sam Vining then took the floor with a rather generalized but highly effective talk on the art of salesmanship. He stressed the importance of possessing the "selling urge," but spent most of his time in explaining how salesmen should impress upon a purchaser just what she gets for her "extra dollar" when she purchases a quality appliance rather than a cheap one.

To illustrate dramatically the drudgery necessitated by the use of cheap appliances, Mr. Vining resorted to his well-thumbed but still tremendously potent electric flat-iron demonstration, in which he uses an inexpensive iron to "kick a wrinkle out of a shirt," meanwhile frying an egg and some bacon on top of the iron, toasting a slice of bread beneath it, and then utilizing the iron's excess heat to brew a pan of coffee.

At the conclusion of this demonstration, which had the audience of some 150 people practically rolling in the aisles with laughter, Mr. Vining dared anyone present to ever sell a cheap electric appliance without thinking of this performance, to ever again hear a prospect say that she wanted to buy a cheap appliance without replying, "Good God, lady, not that!", or even to go home and inspect the make of iron in his own home.

PROGRAM OUTLINED

Topics discussed in previous programs have been: salesmanship, refrigeration, electric cookery, and electric water heating and electric rates. Topics on the list of future discussions include: kitchen planning, home laundry equipment, and advertising and display.

H. J. Wilson, president of the Electrical Association, opened the meeting, H. A. Smeeton, Georgia Power Co.'s director of dealer coordination, introduced the speakers.

CLASSIFIED ADVERTISING

RATES: Fifty words or less in 6-point light-face type only, one insertion, \$2.00, additional words four cents each. Three consecutive insertions \$5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS AVAILABLE

WANTED: ENGINEER able to lay out coils and lowslides for growing eastern refrigerator manufacturer, as assistant to production manager. Willing to start at nominal salary with opportunity of advancement. Give full particulars of training, production experience, age and salary. Box 1041, Air Conditioning & Refrigeration News.

MANUFACTURER of commercial and air conditioning condensing units requires experienced salesman with dealer following. State salary desired, past experience, present employer, and complete details of business experience. Answers confidential. Box 1040, Air Conditioning & Refrigeration News.

POSITIONS WANTED

A-1 SERVICE MECHANIC desires position with independent service company, distributor, dealer. Seven years' experience in field on commercial and domestic. Capable of handling own installation, wiring, motors, high and low sides, dry expansion. Experience with all popular gases. Fully equipped with car. Looking for a congenial connection. Go anywhere. Box 1034, Air Conditioning & Refrigeration News.

SERVICEMAN AVAILABLE May 1st. Married, 32. Twelve years' experience including factory training with two major manufacturers, Frigidaire and General Electric. Commercial, domestic and air-conditioning, with a wide range in the appliance field. Best references. Fully equipped. Confident that qualifications will meet the most exacting requirements of employer. Box 1036, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

COMPLETE LINE of refrigerator display cases, walk-in coolers, and refrigerators for meat markets, grocers, restaurants, etc. Sell with Ehrlich line of compressors, or with any other line of machines. Attractive discounts, also liberal financing arrangements to help sell. 69 years in business. Write for full information and catalog. EHRICH REFRIGERATOR MFG. CO., St. Joseph, Mo.

BUSINESS OPPORTUNITIES

A SOUTHERN California refrigeration sales and service business near Los Angeles for sale. (Principally service) doing good volume. \$1,000.00 will handle. Box 1033, Air Conditioning & Refrigeration News.

FOR SALE—Well established air conditioning business in one of Florida's largest cities. Holds franchise of one of best known manufacturers. Splendid good will. Owner retiring, only reason for selling. Address Box 1035, Air Conditioning & Refrigeration News.

REPAIR SERVICE

MAJESTIC UNIT Replacements—The only original direct factory Majestic replacements. Guaranteed 18 months in writing. All models \$30.00. Immediate delivery from our stock of 2,000 units. Also G. E. and Westinghouse rebuilding guaranteed 18 months from \$30.00 up. Largest rebuilders of Hermetics in the world. G & G GENUINE MAJESTIC REFRIGERATOR AND RADIO PARTS SERVICE, 5801 Dickens, Chicago.

DOMESTIC CONTROLS repaired. Ranco pencil \$1.75; Ranco box \$2.00; General Electric \$2.00; Cutler-Hammer \$2.00; Bishop Babcock \$2.00; Majestic \$2.00; Tag \$2.00; Penn \$2.00. In business over 20 years. Our name is our guarantee. UNITED SPEEDOMETER REPAIR CO., INC., 436 West 57th Street, New York City.

CONTROLS REPAIRED. You profit by our ten years' experience, trained personnel, and precision equipment. Each control accurately calibrated and re-finished. Perfect work, prompt service, reliable guarantee. If it contain a bellows, Haletric can repair it. Try Warrenol for stuck compressors. Samples available. HALETRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

MISCELLANEOUS

WANTED: DISTRIBUTORS for the National Market Index of trade-in values. This book contains over 1,200 different models and illustrations, consisting of every nationally known electric refrigerator. Every refrigerator can be easily identified by this book and is a great help to the salesman selling new refrigerators. This book shows definitely the trade-in price of any make refrigerator. Kindly write for all details to HERMAN HANTOBER at 96 Fifth Avenue, New York City.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

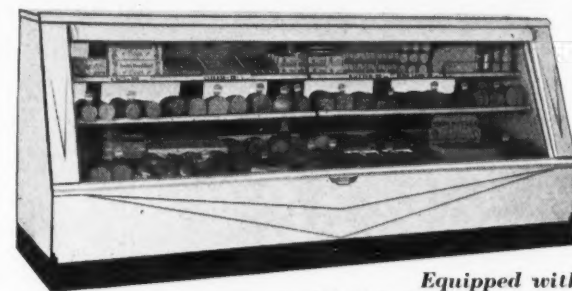


"VEGETAIRE"
meets every requirement for Refrigerated Produce Display. One or more belongs in every market handling produce in your territory.

"VEGETAIRE"
THE PRODUCE MASTERPIECE

SHERER-GILLET CO. • MARSHALL, MICH.
Manufacturers of Refrigerated Display and Storage Equipment

KEEP YOUR PROFITS!



and - -
**WIN
GREATER
GOOD WILL**

Equipped with
Famous FOGEL Lifetime Vision.

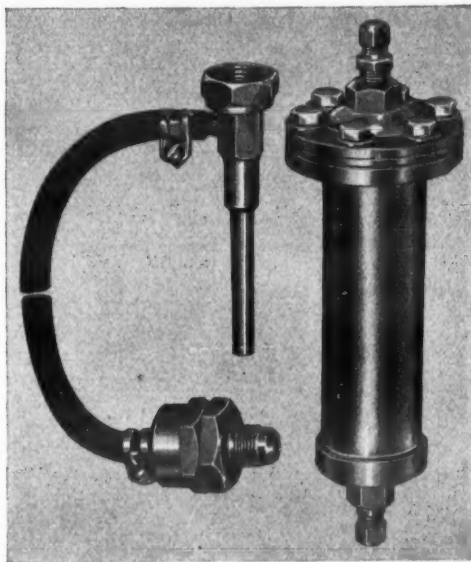
FOGEL distributors need not spend excess time and money on frequent service calls. FOGEL equipment is built for perfect performance with little attention. This means ASSURED SATISFACTION for the owner and PERMANENT GOOD WILL for the dealer.

Inquire today about our complete line of refrigerated Food Storage and Display Equipment.

Interesting Distributor Proposition to Qualified Firms.

FOGEL REFRIGERATOR COMPANY SINCE 1899
16th & Vine Sts., Phila., Pa.

The new VACUUMATOR



The Ideal Equipment
for Cleaning
Dehydrating
Evacuating
Condensers and
Evaporators

Simple, efficient, fast,
inexpensive and portable.
Uses city water
pressure to build up
28" vacuum.

It is the answer to
a serviceman's prayer
for help in removing
moisture and cleaning
dirty systems.

Comes packed in a
sturdy box complete
with instructions. Only

\$10.00

Buy from your
favorite jobber.

AMERICAN INJECTOR COMPANY
1481-1491 Fourteenth Avenue DETROIT, MICHIGAN



FOUND
THE WAY TO KNOW WHAT'S GOING ON BEHIND THAT CLOSED DOOR

As every service man knows, the only true story of refrigeration temperature is told under actual working conditions with the refrigerator door CLOSED. That's why the old-fashioned pocket thermometer has had to make room for this Marsh "Serviceman" with its easily read dial and generous length of capillary tubing for reaching the real point of testing. You don't guess when you use the—

MARSH "Serviceman"
REFRIGERATION SERVICE THERMOMETER

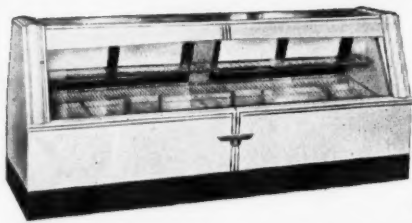
The illustration tells the story of this ruggedly built instrument. It is guaranteed accurate within one degree. It has the Marsh "RECALIBRATOR" which makes it possible to reset it as easily as you would adjust a postage scale. Volume production permits selling this finely built instrument (in ranges of -10° to 65° or -10° to 100°F) at a dealers net price of... **\$500**
(Minus 20° temperature range at slight added cost.) f.o.b. Factory

JAS. P. MARSH CORPORATION
2067 Southport Avenue, Chicago, Ill.

MARSH Refrigeration Instruments
GAUGES—THERMOMETERS—RECORDERS—MERCURY SWITCHES

THE BUYER'S GUIDE

THE NEW 1938 C-B KOLD-O-MATIC



Display Cases & Refrigerators
Fulfill Constantly Increasing
Demands For

- MORE DISPLAY
- MORE EYE APPEAL
- PROPER TEMPERATURE
- PROPER HUMIDITY
- PROVEN CONSTRUCTION
- PROVEN QUALITY

EXCLUSIVE TERRITORIES AVAILABLE
FOR QUALIFIED DISTRIBUTORS

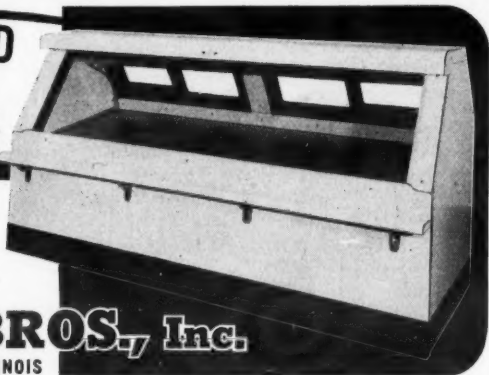
THE CINCINNATI BUTCHERS SUPPLY CORPORATION
CINCINNATI, OHIO

THE LAST WORD IN Refrigeration

40 Years' results combined in one case.
SCIENTIFICALLY TESTED.
MECHANICALLY PERFECTED.
NATIONALLY ACCEPTED.

BROMANN BROS., Inc.

FULTON & PEORIA STS. CHICAGO, ILLINOIS



ACME INDUSTRIES, INC.

REFRIGERATION

AIR CONDITIONING

PIPE COILS • FINNED COILS • SHELL AND TUBE CONDENSERS • WATER COOLERS

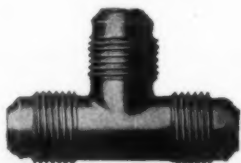
UNIT COOLERS • OIL SEPARATORS • ACCUMULATORS • LIQUID RECEIVERS • SPECIALTIES

JACKSON, MICHIGAN

MILLS COMPRESSORS

for Commercial Use

Mills Novelty Company • 4100 Fullerton Avenue • Chicago, Illinois



The Best Is a Matter of Skill

Many combined "skills" go toward the making of Seepage Proof Fittings.

There's skilled metallurgists, designers, engineers, toolmakers, pattern-makers, machinists and skillful customers too, connected with the forming of every fitting "Built Right To Stay Tight." Every craft contributes an important and necessary skill to the final inspected product.

Skill in the design and fabrication of dependable fittings does not spring up overnight. We have supplied leaders of automatic refrigeration ever since the birth of the industry and continue to serve, as always, as a preferred source of fittings.

For standard, semi-standard and special fittings consult us.

COMMONWEALTH BRASS CORPORATION

Commonwealth at Grand Trunk R. R.
DETROIT, MICH.

Foreign News

Palestine Still Fairly Good Market For Conditioning Units, Engineer Says

Max Petruschka
Refrigerating Engineer
5a, Bougrachow St.
Tel-Aviv, Palestine

Editor:

I received only yesterday No. 467 of the ACRN (March 2, 1938) and had just a short glance over the news published in this issue.

The article "Political unrest hurts the rapidly growing Palestine market" is somewhat misleading as you state that "there has been little demand for separate condensing units a.s.o." until the end of this paragraph.

If you look over the report in your paper of Dec. 12, 1936, about the dollar value of factory shipments to Palestine you will find an amount of more than \$105,000 for commercial units up to 1 ton during these two years.

The biggest portion of the parts mentioned in the same publication will belong also to the commercial section for coils, expansion valves, tubing, and fittings a.s.o. are included in this section. Altogether you will find an amount of approximately \$230,000 shipped to Palestine during 1934 and 1935 against less than \$330,000 for household cabinets.

As Mr. Taubeneck will remember most of the cabinets for commercial installations are built locally—as a matter of fact there are not more than 5 or 6% commercial cabinets of foreign make in use in the country. That means a very big market for separate condensing units since the beginning of the refrigeration business, a fact all export managers of the firms represented here will know.

According to the size of the country and the number of its population (for commodities like cooling you can figure not more than 500,000

people, as the vast majority of the arabic inhabitants are really living on a standard as their ancestors 300 years ago) we have a saturation in the commercial line much higher than in most countries of Central Europe I know personally.

Of course, our climate forces butchers, grocers, and other merchants dealing with foodstuffs to arrange for a good cooling, but we could never have a business like we had two and three years ago if we would not have the enterprising mind of the Jews coming to their home country.

Besides from the business slump since nearly two years we all are suffering from the still unsettled questions regarding the partition of the country and/or the continuance of the Mandate by Great Britain.

Did you prepare for the last three months of the year 1936 and the year 1937 the same statistic as mentioned above? If so, would you please send me one copy of it as I would like to make a comparison of all the countries in the Near East according to the number of their inhabitants and their imports from the States during the last five years.

I am now going to prepare material about all the different air-conditioning installations in Palestine and the neighboring countries for a lecture I have to read here in the near future. If you are interested I will send you a copy together with some pictures. It may be possible that you will find something interesting in it for your readers.

Should you sometimes need information of any kind about Palestine and the other countries of the Near East, I will gladly give you any possible assistance.

MAX PETRUSCHKA

Commercial Business Very Good In Denmark Writes Serviceman After Trip Abroad

Electric Refrigerator Service
123 Delmar Place, Syracuse, N. Y.

Editor:

Enclosed please find my check for \$4.00 for renewal of my subscription to the REFRIGERATION NEWS. I enjoy reading every bit of it and find I could not get along without it, as it is very helpful to my business.

I have just been on a three months vacation to Denmark, and I visited the leading manufacturers in that country of refrigeration equipment. I was very glad to find your paper so well represented and so well liked in Denmark. I went through the plant of Sabroe in Aarhus. They are manufacturers of refrigeration machinery, and was rather surprised to see how far advanced they were in the business of refrigeration.

They build big jobs as well as small commercial machines for butcher shops, bakery, and grocery stores. One to four-cylinder compressors, commercial and domestic. The common gases used are Freon, methyl chloride, and sulphur dioxide. They also build big compressors for ammonia and carbon dioxide.

Business is very good in the commercial line. They have sold and installed a lot of jobs in ships and in packing houses where carbon dioxide and ammonia gas is mostly used.

Domestic jobs are not going over big as yet, due to the rather mild climate and the public has not been educated on the saving of food due to electric refrigeration. A kilowatt costs about eight cents, a 5-cu. ft. cabinet sells for about \$250 to \$300 with one year free service.

Frigidaire is pretty well represented in that country and have sold quite a few commercial jobs. But due to a high import duty, it has helped to stimulate business for home industry. Control and expansion valves as well as thermostatic valves and coils of all sizes are also made over there.

The Danes drink a lot of beer, and it is good beer, too. I wish they would make it as good here in this

country. The only drawback is that it is not properly cooled. Somebody should go over there and sell them the idea of installing some of our good beer coolers. They do a good business and can afford to install them.

In fact, one doesn't hear about hard times, everyone seems to have money to spend. The standard of living is high and everyone seems happy and contented. People don't have to worry about old age as everyone is taken care of when they reach the age of 65 through the Old Age Pension, yes, and it's a credit to the country.

Railroad transportation is cheap. I bought a ticket good for eight days entitling me to ride all over the country night and day. In that way I had a good opportunity to see the country and study the people and the conditions.

You may put this in your paper if you think that it would be of interest to your readers.

FRITZ HARDER

Building Boom Increases Sales Of Refrigerators In Czechoslovakia

PRAGUE, Czechoslovakia—An upward trend in the use of refrigeration in Czechoslovak homes has resulted from the recent brisk building activities here.

Many modern new homes have been constructed, most of them with modernly equipped kitchens.

It is estimated that sales of electric and gas refrigerators increased from 3,500 in 1936 to 4,000 in 1937. About 12% of the mechanical refrigerators sold last year were built into new homes.

Sales of mechanical refrigerators are expected to continue their gradual increase.

Export Manager



STUART F. MALCOLM

Malcolm Heads Exports For Borg-Warner

CHICAGO — Stuart F. Malcolm, former export manager for refrigeration and air-conditioning supplies of Melchior, Armstrong, Dessau Co., has been appointed manager of the electrical appliance, refrigeration, and air-conditioning parts department of Borg-Warner International Corp.

This newly formed department has taken over the entire export operations of the refrigeration and air conditioning department of Borg Warner Service Parts Co.

Mr. Malcolm is a graduate of the college of business administration of Boston university, and for the past 10 years he has been engaged in export traffic and foreign sales work.

Under his direction is the handling of Kramer condensers, coils, unit coolers, and drain baffles; Mueller Brass valves, fittings, and accessories; Henry ammonia valves and fittings, and charging lines; Wolvring copper tubing; Electrimatic regulators; Red Seal controls, expansion valves, and a complete line of electric refrigeration appliances; and Hamilton Beach iceless ice cream freezers and electrical household appliances.

SUPPLIES • PARTS • TOOLS

Refrigeration — Air Conditioning
Oil Burner — Stoker

Write for Our New Catalog
VINCENT BRASS & COPPER CO.
100 North Second St., Minneapolis, Minn.

TEMPRITE

INSTANTANEOUS
BEER and WATER COOLERS

Detroit Michigan

BRUNNER

Send for the New

REFRIGERATION CATALOG

Seven Models of Compressors

Fifty-eight Models of High-

sides from 1/4 H. P. to 15 H. P.

BRUNNER MANUFACTURING CO.

UTICA, N. Y.

MASTERCRAFT

ADJUSTABLE PAD AND CARRYING HARNESS

The most efficient and economical equipment made for handling refrigerators safely and without scratching or marring. Pad is separate from harness and both adjustable to all styles and sizes of cabinets.

Efficient, sturdy, easily and quickly applied. Name of refrigerator attractively lettered on pad without charge.

Adjustable Pad, \$9.50 each

Adjustable Harness, \$6.00 each

f.o.b. Chicago

Write for 1938 folder and prices on pads for refrigerators, washers, ironers, ranges, radios, etc.

Pat. Appl'd for

BEARSE MANUFACTURING CO.

3815-3825 Cortland Street, Chicago, Illinois

Engineering

Absorption-Type Milk Cooler For Farm Developed By Engineer In Vienna

VIENNA, Austria, Germany—A self-contained milk and cream deep-cooler of the ammonia absorption type, known as the "Ultra," has been invented and perfected by Louis Stark, Viennese refrigeration engineer, reports John C. Wiley, American consul general here.

The Ultra is intended for use mainly in small and medium-sized dairy farms and collecting places where the installation of compression-type refrigerators would be unprofitable. It also may be used where there is a shortage of water, or where electric power is not available.

Cooling process is performed with four small containers and auxiliary parts forming the cooling unit. Largest of the containers, extending out from one side of the machine, is filled with a quantity of ammonia water. This is heated by kerosene, oil, coal, gas, electricity, or any other available fuel, for 45 minutes to attain a temperature of 250° F.

Heat causes the ammonia contained in the water to vaporize and pass through a pipe into two small containers in the central part of the unit. These two containers are connected to each other, one being cylindrical, the other flat with corrugated sides.

To start the freezing process, the ammonia vapors in the cylindrical container are condensed by means of cold water which is forced through small perforations in the sides of the container. The ammonia vapors being condensed gradually absorb the warmth from the air in both of the connected containers, thus lowering the temperature in the refrigerator.

Within an hour, the vapors are absorbed again by the water in the large container which is thus refilled with the frost-producing agent. If further cooling is required, the whole procedure is repeated.

Milk is placed in a basin mounted on top of the unit. First, it flows down the corrugated outside walls of another container above the two already mentioned. Through this container cold water is running.

The milk continues flowing downward over the outside walls of the other two central containers, both of which are filled with ammonia vapors gradually being condensed to produce cold.

Eventually the chilled milk flows into a pan under the bottom ammonia vapor container, and from there is

drained through a tube into a milk can.

On its way over the upper corrugated container, the milk is cooled from the original milking temperature of 95° F. to 59°, according to Mr. Stark. In passing over the other two containers, the milk is further cooled to flow into the can at a temperature of between 36 and 39° F.

Cost of operation is said to consist only of the fuel required to heat the mixture of water and ammonia.

Promotional claims made for the Ultra are that there is no dynamo, no compressor, no accessories, no evaporation of the cooling fluid, no valves, no stuffing boxes, no repairs, no trouble in operating.

Skeletal in construction, the Ultra is approximately 55 inches in height. The machine is said to make it possible for a farmer to dispose of the milk obtained from the morning and evening milkings in one delivery, and to store the output of cream of several days to be delivered in one batch, without risk of acidulation during hot spells.

The Ultra may be set up at any convenient place, and is readily portable. Operation of the machine is simple, and no special training is required, according to the inventor. All that is necessary is the heating of the water-ammonia mixture and the pouring of the milk into the pan to begin its downward flow over the three cooling containers. The swinging over by 90° of a lever sets the deep-cooler working, states Mr. Stark.

Any kind of fuel can be used, and the machine can be equipped with whatever kind of heater the buyer considers most suitable for the fuel he intends to use.

Cooling water necessary to run the machine need not be under pressure. The same water may be used over and over again.

Up to the present, only single units have been produced as demonstrators to show to authorities and others interested in the machine.

Mr. Stark estimates that if manufactured on a large scale in Austria, the smallest type of Ultra refrigerator, with a cooling capacity of 20 liters an hour (about 21 quarts), could be retailed for 350 schillings (\$65.66 as of Feb. 7).

The Ultra could be manufactured in various sizes—five, eight, or 11 gallons an hour for cream cooling; 11, 22, 44, 80, or 110 gallons an hour for milk cooling.

On such a basis, says Mr. Stark, prices would range from 600 to about 2,800 schillings according to Austrian conditions of manufacture. This would be from about \$112 to \$544.

Patents for the Ultra machine have been granted to Mr. Stark by a number of countries, including Australia, Austria, France, Germany, Great Britain, and the United States, according to Consul General Wiley.

It is understood that Mr. Stark has been negotiating with a large English manufacturer of electrical equipment regarding the granting of a manufacturing license for Great Britain.

Crane Co. Issues Data On Fountains, Accessories

CHICAGO—Crane Co. has issued a new folder in two colors describing and illustrating its various drinking fountains and accessories.

Included in the drinking fountains are wall types for public buildings; heavy duty wall and multiple types for factories; deluxe wall and pedestal types for public buildings, waiting rooms, corridors; pedestal and cabinet types for offices, factories, public parks.

Listed in the accessory equipment are angle-stream jets, automatic stream regulators, and special trimmings for all types of installations, including drinking fountain jets, gooseneck faucets, and receptors.

With Brunner



STEPHEN J. BENN

Stephen Benn Becomes Brunner Assistant Chief Engineer

UTICA, N. Y.—Stephen J. Benn is now a member of the engineering staff of Brunner Mfg. Co., serving in the capacity of assistant chief engineer.

Prior to joining Brunner, Mr. Benn had been with Merchant & Evans Co. for 13 years, eight years of which he was chief engineer. With M & E he was in charge of experimental work and new designs, and also refrigeration applications in general, particularly with respect to development work.

Mr. Benn's early training was obtained at Philadelphia's Drexel Institute, following which he had considerable shop experience with Pierce-Arrow and Cleveland Tractor Co. Later, with De Laval, he made an exhaustive study of steam turbines. Joining the Badenhauer Corp., he devoted his efforts to Diesel engine development, as well as oil burner problems. In 1926 he joined Merchant & Evans.

\$250,000 Refrigerating Plant Freezes Dirt For English Mine Shaft

WORKINGTON, Cumberland, England—A huge commercial refrigerating system costing about \$250,000 has been installed in the new Solway colliery project of United Steel Companies here to freeze the ground preparatory to the sinking of two shafts.

At a depth of 150 feet, it is reported, through 25 holes every drop of water within a radius of 50 feet of both shafts will be frozen, and later, through holes sunk to 225 feet, liquid cement will be forced through the earth at a pressure great enough to fill up every fracture and crevice in the rock surrounding the projected shafts.

This will stop seepage of water almost entirely, it is said, thus enabling the shafts to be driven through dry earth.

Cementation will be permanent, while the "wall of ice" will last until the colliery is in proper working order. It requires two months to prepare the ground for sinking operations, and the freezing process will be maintained as the sinking operations continue to the desired depth, according to a report in a Cumberland county newspaper.

"This is expected to take at least another eight months," the article states. "All the holes for the freezing operations are vertical, and the contractors have guaranteed to sink the whole with a division of less than one inch."

Messrs. Toraky & Co., Belgian firm said to be the only contractors in Europe undertaking this class of work, is conducting the project. The company is reported to have guaranteed that the shafts will have a leakage of less than eight gallons of water a minute, which, experts say, is infinitesimal.

"The new pit," the newspaper article continues, "will be 100% electric; 75% of the output will go direct to the coke ovens less than 300 yards

away; pithead baths are to be provided. All surface buildings will sit on 70-foot piles, to safeguard the foundations of the iron and steel works and by-product plant under which the workings will be situated.

"One hundred and fifty men will be able to ride at one time. The shafts will be sunk through coal. Output will not be less than 2,000 tons a day, and in time coal will be won at a distance of from five to six miles under the sea."

Estimated cost of the entire project is \$3,750,000, the article states.

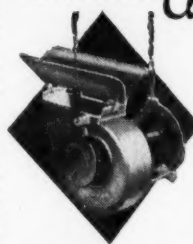
Sibley Offers Consultation On Building Insulation

RIDGEWOOD, N. J.—Sibley Service Insulations, Inc. has been established here by Leon T. Sibley and L. K. Ross as an engineering, contracting, and insulation service for architects, engineers, and contractors.

Products and services offered by the company include insulation for refrigeration, commercial industrial and residential buildings.

THE BUYER'S GUIDE

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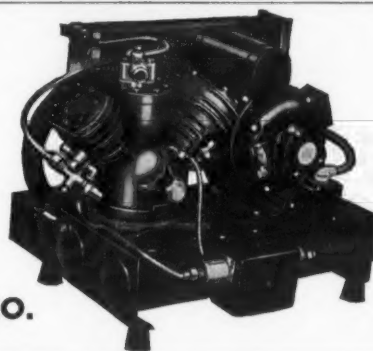
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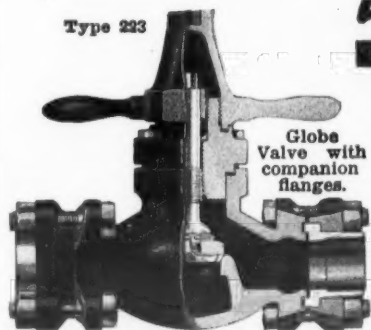
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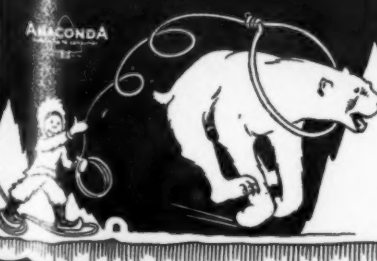
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